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ABSTRACT

Twelve financial institutions (nine banks and three insurance companies) from five countries (France, West Germany, Japan, Sweden, and the United States) were studied to determine the directions in which financial service markets and firms are moving as a result of increasing competition and technological change. Data were collected from open-ended interviews with representatives of the firms studied as well as financial services experts from the business community, trade unions, government, and academia. It was found that financial service markets, which were once characterized by great stability and continuity, are changing rapidly in all of the countries examined. These changes are promoting a radical shift in the functional emphasis of firms away from the production of services (back-office functions) toward customer assistance, sales, and product development (front-office functions). This shift of functions is demanding a fundamental reorganization in the division of labor and a new emphasis on decentralization of functions and decision-making responsibilities that are in turn producing fundamental changes in the firms' human resources and training needs. (MN)

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HUMAN RESOURCES AND CORPORATE STRATEGY

TECHNOLOGICAL CHANGE IN BANKS AND INSURANCE COMPANIES

OCDE
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PARIS 1988

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HUMAN RESOURCES AND CORPORATE STRATEGY

TECHNOLOGICAL CHANGE IN BANKS AND INSURANCE COMPANIES:

FRANCE, GERMANY, JAPAN, SWEDEN, UNITED STATES

by

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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This volume forms a part of the on-going work in the CERI project "Technological Changes and Human Resources Development: the Service Sector". The principal objective of this project is the analysis of developments in the service sector in OECD countries with particular focus on skill formation related to changing business strategies, employment patterns and internationalisation of service activities.

One of the first sectors analysed was banking and insurance. This choice was justified in view of the far-reaching transformation that affected this sector in most OECD countries through increased competition, internationalisation, deregulation and widespread use of new technologies.

In order to analyse and assess this transformation and its implications for human resources development, the authors visited financial firms in five OECD countries: the United States, Japan, Germany, France and Sweden.

Their study suggests that human resource developments assume an increasingly central role in the evolution of the financial sector. After a long period of substantial employment growth it is now the quality of the human resources which has become the crucial factor for financial firms to face. This implies the search for new strategies of work organisation and skill developments which together increasingly is becoming a new competitive edge for the firms.

Due to this new situation profound changes are being observed in job contents for all categories of workers concerned which puts a premium on developing a process of permanent skill formation closely linked to changes in products and markets.

The findings from this study, although limited to the financing sector, are likely to have important implications for skill formation in the service sector as a whole. Many of the findings and issues raised would also have important implications for governments' education, training and employment policies. The study, published on the responsibility of the Secretary-General, has been coordinated by the CERI Secretariat and undertaken by Mr. O. Bertrand, Senior Researcher at CEREQ, Paris and Mr. T. Noyelle, Senior Researcher at the Conservation of Human Resources, Columbia University, New York.

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Chapter 1

INTRODUCTION

Scope of the Book

On February 15, 1986, the French daily newspaper *Le Monde* published an article with a seemingly ominous title – "Banking: Tomorrow's Steel Industry" – making use of a headline almost similar to one it had employed in 1979, even though employment in the sector had grown by over 30 000 net new jobs in the seven-year interim[1]. The reason for the *Le Monde*'s pronouncement was the opening of discussions between the Association of French Banks (AFB) and unions on the future of employment in French banking.

These discussions were starting against the backdrop of a recent forecast predicting that 100 000 jobs were about to be eliminated in the French financial sector as a result of the introduction of new technology[2]. Although this forecast was being criticized by many as being unfounded and excessive, it is also true nevertheless that, as early as 1984, the chairman of a French bank had argued that employment in the French banking sector would shrink by 15 percent over the next ten years, that is by nearly 60 000 jobs.

However catchy the title of the article might have been, its implicit message rested on the basic assumption that banking, like steel, was fundamentally a mature, perhaps even a shrinking, industry in which computers were being introduced as direct substitutes for human labor – an assumption that more than a few observers of banking might be ready to challenge. Indeed, the same week the article appeared in *Le Monde*, a foreign banker who was being interviewed for this study was asked to assess the French market. His answer was strikingly upbeat: "To be sure, traditional markets are quite saturated in France; nevertheless, French bankers are failing to see that the new consumer and wholesale banking markets remain vastly underdeveloped."

In fairness to *Le Monde*'s article, its author, toward the end of his column, quoted a union representative who was participating in the meetings with the AFB as saying: "The real problem is mismatched employment throughout the sector. In some areas, there is excess employment, in others, the banks are understaffed. We need to negotiate a solution to this problem." Such an assessment seemed far more consistent with that of a Swedish union representative interviewed in December 1985 on the situation in his country: "Five years ago, a famous Swedish researcher published a study on the future of technology and employment in the Swedish financial sector in which he predicted, at the time, that 10 000 jobs would disappear in the sector between the early and the mid-1980s. What happened instead was the creation of over 10 000 net new jobs in the sector." One reason why this assessment seemed particularly relevant to understanding the French situation was that in so far as we were able to observe, Swedish banks and insurance firms seemed somewhat more advanced than their French counterparts in confronting the clerical displacement associated with the automation of back-office production.

One objective of this study is to debunk the simplistic theories that too often have been and continue to be established to explain the relationships among employment, output, technology and productivity. As we show in this chapter, up to now employment trends in the financial sectors of five of the major OECD countries have confounded most of the doomsayers' predictions. We think this is so partly because the way in which the employment question usually is raised is fundamentally incorrect. The level of employment in a given sector is not determined simply as the outcome of a process of change in which the rate of investment in new technology, productivity increases, and market changes are variables independent of employment itself. On the contrary, the quality of the human resources of a firm, or more broadly of a sector, determines the rate at which new technology can be introduced, productivity increases be achieved and new markets be developed. From such a perspective, the problem of the French banks may stem not so much from too rapid an introduction of new technology and from the resulting employment losses; rather, it may stem from their slowness in expanding into new markets, linked in part to the inadequacy of the banks' human resource pool. In turn, this may leave the French banks increasingly open to competition from others, including foreign banks, gaining a market share in some of the new wholesale/investment banking markets or consumer credit institutions, mutual funds, and yet other institutions battering the banks' earlier franchise on the consumer banking market. In short, the difficulties of French banks in moving decisively need not mean that French financial service markets lack opportunities for growth.

This book addresses the human resources issue among a sample of large and medium-sized financial firms from five OECD countries from such a qualitative point of view. It attempts to understand the directions in which financial service markets and firms are transforming as a result of both increasing competition and technological change; the kind of organizational transformation that firms must undergo to reposition themselves vis-a-vis new market opportunities; the resulting challenges facing firms in terms of assembling and developing new human resources; and the ways in which firms have begun to respond to the human resources challenge through both the labor market and the skill formation process.

Specifically, this book presents findings from an in-depth study of twelve financial institutions, i.e. nine banks and three insurance companies, from five countries: France, Germany, Japan, Sweden, and the United States. The findings are based on data provided by the firms themselves and on materials developed in the course of extensive open-ended interviews with executives and managers from each of the firms in strategic planning, systems, human resources, personnel, and selected operating departments and, where applicable, with union officials. Each firm was studied in its home country. In addition, two of the firms allowed us to conduct interviews in one or more of their foreign operations. We also interviewed financial service experts from the business community, trade unions, the government, and academia in each of the countries. All of our interviews were conducted between December 1985 and May 1986. Two preliminary reports were prepared during the summer and fall of 1986 and subsequently presented in Stockholm, Paris, New York, and Washington to audiences of business executives, public policy-makers and researchers in order to elicit comments and reactions prior to the writing of this more complete study[3]. A first draft of this enquiry was presented to a similar Japanese audience in Tokyo in June 1987.

The message of the book is straightforward: financial service markets, once characterized by great stability and continuity, not to say stodginess, are changing rapidly everywhere, partly as a result of increasing competition linked to both disintermediation and internationalization and partly as a result of the growing use of computerized technology. These changes

are promoting a radical shift in the functional emphasis of firms away from the "production" of services (back-office functions) toward customer assistance, sales and product development (front-office functions). Shifting to these new functions demands a fundamental reorganization in the division of labor and a new emphasis on decentralization of functions and decision-making responsibilities. Yet a firm's ability to effect change and reposition itself vis-a-vis the new markets is linked directly to the capacity of its human resources both to cope with and promote change. The result is the need for a fundamental shift in the firm's human resources, involving a widespread upskilling of the firm's entire labor force and an emphasis on a new array of skills focusing particularly on customer assistance, sales, entrepreneurship and high-level expertise. This shift was observed in each of the 12 firms visited and was being carried out through both changes in human resources hired by firms from the external labor market and a restructuring of firm-based training.

The extent to which a similar logic of change was found everywhere is in itself an important finding and is due, in no small part, to widespread disintermediation and internationalization, two phenomena that are leaving no market untouched by new competition. Nevertheless, this similar logic unfolds within national contexts characterized by different labor relations environments, labor market arrangements, and educational and training institutions, and, of course, by firm-specific cultures, each with their own strengths and weaknesses. The implication, of course, is that, ultimately, each country and each firm must chart its own unique, developmental course.

Another important finding is that while issues related to potential displacements among lower-level clerical and technical personnel and the need for their retraining are among those that have caught the attention of policy-makers most readily, they cannot be divorced from those associated with the structural shifts in skills affecting upper-level professional and managerial personnel. Increasingly, the inability of firms to initiate change and upgrade their lower- and middle-tier personnel may reflect the weaknesses of upper-level personnel themselves in charting a new course.

Furthermore, while most firms seem to know what kind of upgrading is needed among their middle-level personnel – increasingly a shift from back-office/production skills to front-office/assistance/sales skills – and how to bring it about through labor market adjustments or through training, firms do not seem to have as strong a grasp on how to develop the new entrepreneurship and high-level expertise demanded from their upper-level personnel. In the long run, however, the balance of employment growth is shifting more and more toward these upper-level personnel. Solving their skill formation needs may be the most fundamental strategic challenge.

Employment, Technology, Productivity and Markets: Reframing the Issue

Because this book reports exclusively on a study of twelve financial firms and because the data presented throughout pertain to those firms only, it is useful to review here briefly the basic employment trends in the financial sectors of the five countries involved in the study as a caveat to our presentation. At a minimum, this should provide the reader with a sense of the overall context within which we studied the twelve firms and help us to refocus the human resources question in the direction suggested earlier.

Fifteen-Year Employment Trends in the Financial Sectors of the Five Countries

Assessing and comparing employment trends among countries involves a series of methodological difficulties linked in part to the transformation of financial service industries

themselves and the fact that each national census system answers these difficulties differently. Among others, these difficulties include the following:

1. As a result of deregulation and competition, new players are entering financial service markets or market segments previously reserved for a selected group of institutions (see Chapter 2). Thus, defining the size of the industry or its subsectors becomes a major problem. Commercial banks are entering investment banking markets everywhere; mutual funds are competing for consumer deposits with life insurance companies, commercial banks, the post office (in countries with a post office-based banking system), savings and loans associations, mutual savings banks, and in France and the United States with department stores or supermarkets; car manufacturers are competing with banks and insurance companies for consumer financing and car insurance coverage. This phenomenon, sometimes known as the "blurring of markets", makes relevant employment measures in financial services increasingly difficult to develop.
2. There is continued growing reliance on out-sourcing everywhere by banks and insurance companies in areas as diverse as data processing, software development, training, janitorial services, security services and yet other services, either through subsidiaries or through independent contractors (see Chapter 5). Accounting for these differences is methodologically difficult. In addition, in countries where the practice has tended to favor the development of specialized subsidiaries by financial institutions, it remains unclear to us where the employment of these specialized units is recorded. This is particularly troublesome with the Japanese data.
3. There is growing use by employers of part-time personnel, seasonal employees, trainees, and others who are not part of the firm's fully attached, full-time labor force. Here also, it is not clear to us how the various census systems account for these employees.

To resolve these and other methodological difficulties would have been far beyond the scope of this study. As a result, the reader must use great caution in interpreting the employment data shown in Table 1.1 for the period 1970-1985. Table 1.1 suggests the following trends:

- Employment in the financial service sector as a whole grew in each of the five countries throughout the first half of the 1980s. In France and Sweden, aggregate average annual rates of growth for the sector during the first half of the 1980s were quite similar to those that had prevailed during the second half of the 1970s. By comparison, growth rates in Japan, Germany and the United States for the early 1980s were markedly lower than those for the late 1970s, although in the case of the United States they were quite similar to those experienced during the first half of the 1970s. Over the entire period 1970-1985, growth in all financial services was markedly higher in Japan and the United States than in the other three countries.
- In terms of subsectors, the slowest rates of growth during the early 1980s were among insurance carriers in Germany, Sweden and the United States and among the group of "banks and trust companies" in Japan.
- In both Japan and the United States, where there remained a regulatory separation between commercial banks on the one hand and investment banks and security firms on the other, growth was much greater among the latter than the former in recent years (1980-1985). This reflected the fact that investment banks and security firms had been in a better position to capitalize on new market opportunities.

Table 1.1 EMPLOYMENT CHANGES IN THE FINANCIAL SERVICE SECTORS OF THE FIVE COUNTRIES
1970-1985
In thousands

	1970	1975	1980	1985	Average annual rate of growth (%)		
					1970-75	1975-80	1980-85
FRANCE	n.a.	**559.0**	**608.0**	**647.0**		**1.67**	**1.25**
All banks	n.a.	376.0	421.0	450.0		2.30	1.34
Insurance carriers	121.0	127.0[1]	131.0	139.0		0.78	1.20
Insurance agents and brokers	39.0	56.0[1]	56.0	58.0		0.00	1.07
GERMANY	n.a.	**678.1**	**746.2**	**797.0**		**1.92**	**1.80**
All banks	429.0	474.7	543.9	598.9		2.73	1.92
Insurance carriers[2]	n.a.	203.4	202.3	198.1		-0.10	-0.40
JAPAN	**1 042.8**	**1 321.0**	**1 484.8**	**1 644.0**	**4.84**	**2.36**	**2.05**
Banks and trust companies	344.7	429.6	440.8	451.9	4.50	0.52	0.40
Other financial institutions	259.0	360.3	426.4	481.6	6.82	3.41	2.47
Securities and commodity brokers	81.9	99.5	101.7	124.7	3.95	0.44	4.20
Insurance carriers, agents and brokers	357.2	431.6	515.9	605.6	3.85	3.65	3.28
SWEDEN	n.a.	**98.9**	**97.8**	**106.7**		**1.85**	**1.75**
All banks	n.a.	53.4	54.9	63.1		0.70	2.82
Insurance carriers[3]	n.a.	37.5	42.9	43.6		3.47	0.32
UNITED STATES	**2 915.2**	**3 318.1**	**4 044.1**	**4 644.6**	**2.62**	**4.11**	**2.81**
Commercial banks	1 044.1	1 274.5	1 570.6	1 715.0	4.05	4.27	1.80
Savings and loan, credit institutions	360.8	437.5	569.8	757.9	3.92	5.41	5.87
Investment banks and brokers	204.5	170.2	227.4	355.5	-3.10	5.97	9.35
Insurance carriers	1 031.4	1 105.4	1 274.1	1 761.8	1.40	2.95	6.61
Insurance agents and brokers	274.4	330.5	452.2	554.4	3.79	6.45	4.17

1. 1976 estimates.
2. Do not include insurance agents and brokers. In Germany, these are counted in the business service sector. They are not shown here.
3. Includes public sector insurance. Does not seem to include insurance agents and brokers.

Sources: *France*: Institut National de la Statistique et Etudes Economiques (INSEE), *Annuaire Statistique de la France*, various years (for banking); Caisse Nationale de l'Emploi dans l'Industrie et le Commerce (UNEDIC), *Annuaire Statistique*, various years (for insurance carriers, agents and brokers).

Germany: Association of Private Banking Employers, *Arbeitgeberverband der Versicherungsunternehmen in Deutschland (Hrsg.) Tätigkeitsbericht 1975 bis 1980* and *Tätigkeitsbericht 1980 bis 1985*; *sowie Gesamtverband der Deutschen Versicherungswirtschaft e.V., Jahrbuch 1986*.

Japan: Bureau of Statistics, Management and Coordination Agency, *Census of Population*, several years.

Sweden: Statistiska Centralbyran, *Arbetskrafts Undersökningen*, several years.

United States: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, several years.

- In both Japan and the United States, relatively high rates of growth were recorded among insurance agents and brokers through the entire 1970-1985 period. When compared to the low employment growth or even decline found among their insurance carriers, such behavior seemed consistent with the argument developed in this book, namely that financial services were characterized by a dramatic shift in employment away from production towards sales functions.
- Preliminary data for 1986 (not shown in Table 1.1) for France, Japan and the United States suggested a flattening of employment growth in France, continued growth in

Japan – except again among banks and trust companies – and a pick up in the pace of growth in the United States. Together, these trends seemed to suggest that the trend in evidence in the French financial industry was more likely the outcome of a cyclical downturn than that of structural changes, and reflected the lackluster performance of the French economy.

Ten-Year Employment Trends in the Twelve Firms Studied

How do these trends compare with the employment performance of the twelve firms analyzed in this book. Table 1.2 summarizes ten-year (1975-1985) employment changes in ten of the twelve firms and five-year (1980-1985) employment trends in six of the twelve firms. The table shows ten-year employment growth in seven of the ten firms for which data are available and ten-year declines in three of them, namely the French regional bank, one of the Japanese banks, and the Japanese insurance firm. In terms of the most recent trends (1980-1985), the table shows five-year declines in three of the six firms for which data are available, including the French regional bank, the French insurance company and the U.S. regional bank. For reasons similar to those mentioned in the previous section, we suggest great caution in examining the data for the Japanese firms.

Table 1.2 EMPLOYMENT IN THE TWELVE FINANCIAL FIRMS

	1985	1980	1975
U.S. multinational bank			
Worldwide	81 300	n.a.	46 400
U.S. only	32 300	n.a.	21 200
U.S. regional bank	3 627	3 731[1]	n.a.
Swedish bank	7 931	7 231	7 279
Swedish insurance company (excluding sales force)	3 408	3 331	3 192
German savings bank	1 182	1 168	n.a.
Large German bank – worldwide	24 154	n.a.	18 749
French regional bank	10 268[2]	10 295[3]	12 207
Large French bank – nationwide	69 226[4]	n.a.	49 960
French insurance company (excluding sales force)	7 665[5]	7 765[6]	7 342
Japanese insurance company (excluding sales force, excluding part-time)	13 744	n.a.	13 826
Japanese city bank – worldwide	15 836	n.a.	19 894
Japanese multinational bank			
Worldwide	14 235	n.a.	13 090
Nationwide, full-time only	5 494	n.a.	6 197

1 1983
2 1984
3 1982
4 1984
5 1984
6 1982. Employment in the French insurance company, exclusive of its sales force, peaked at 7 852 employees in 1977.

Sources: Company data; Moody's *Financial Manuals* (several years); Moody's *International Directory* (several years).

If we compare the findings of Table 1.2 with those of Table 1.1, the most that can be said is that the trends among the individual firms did not comply fully with the aggregate trends in their respective countries. At best, this should serve as a warning to the reader not to extrapolate too hastily quantitative employment trends in just a few firms to those for an entire sector.

Employment Prospects and the Nature of Technological Change

How much can past trends tell us about the future? This is a question that we remain unwilling to answer except for the following observations.

The experience of firms that have not only carried out extensive automation of back-office processing but have also used technology to develop new markets suggests that employment expansion linked to the development of new markets has the potential to outpace retrenchment in back offices. In particular this would seem true of the experience of the U.S. multinational bank and the two Swedish firms which, together, appeared to have moved the furthest ahead in terms of both reorganization of back-office production and an expansion into new markets (see Chapter 7). Note that rarely did we find evidence that back-office employment displacement had led to outright layoffs, because most often firms had planned ahead and managed retrenchment in back offices through labor market turnover, retirement, retraining, and new job placement.

One reason we remain extremely cautious in our overall employment assessment is the very nature of the variables involved in such assessments. As has already been noted, to be able to project employment levels into the future would assume being able to predict what will happen to productivity and the size of the market and, even more importantly, being able to factor in the human resource factor upon which both productivity and market size variables depend. But productivity measures developed by the census bureaus of the various countries for the financial service sectors range from mediocre to poor, because of weaknesses in the underlying concepts. Furthermore, predicting growth in market size is complicated by both linkages to macroeconomic factors and, more importantly from our point of view, by the fact that markets are not created by an invisible hand but by conscious intervention of firms and individuals.

What the previous observations suggest, of course, is the need to reformulate a concept of technological change that is much broader than one that places investment in new technology at center stage[4]. As a result, the concept of technological change on which this study rests puts human resources and institutions at the center of change and emphasizes looking, on the one hand, at the ways in which technology can be used to modify traditional institutional arrangements and, on the other hand, at the ways in which existing institutional arrangements moderate the rate at which the new technology diffuses. What we mean by institutional arrangements includes the ways in which work is organized; the ways in which firms are structured; the ways in which markets and products are structured through firm/customer relationships; and the ways firms satisfy their human resource needs through labor market interactions and in-house training.

Organization of the Book

Following this introduction, the book is organized into six chapters. Chapters 2 and 3 review the forces that are contributing to the transformation of skills and skill structures in financial service firms. Chapter 2 focuses on the transformation of financial service markets

and the way in which computer technology is being used to reorganize old products and old markets and develop new ones. Chapter 3 looks at the impact of market changes on the transformation of organizations and identifies the role of new technology both as a tool to effect such transformation and a strategic stake in and of itself. Chapter 4 brings the findings of Chapters 2 and 3 together and focuses on how market, technological, and organizational changes are contributing to a major transformation in the skill structures of financial service firms. Chapters 5 and 6 concentrate on the ways in which firms are attempting to bring their skill structures in line with the new requirements both through labor market adjustments and through adjustments in skill formation. Chapter 7 concludes by showing why firms must make human resources a central focus of their strategic planning effort, what steps they are taking in order to do so, and what critical challenges lie ahead.

As noted above, the materials presented in this book are all drawn from our interviews or from the data provided to us by the firms. Because several participating firms wished to remain anonymous, we have avoided the use of corporate names. Throughout the manuscript the twelve firms are consistently referred to as:

The large French bank
The French regional bank
The French insurance company
The German savings bank
The large German bank
The Japanese multinational bank
The Japanese city bank
The Japanese insurance company
The Swedish bank
The Swedish insurance company
The U.S. regional bank
The U.S. multinational bank.

In this book, the term "regional" is used in the banking sense of the term, that is, to refer to medium-sized organizations focused principally on regional banking markets. The term "city bank" (as in the "Japanese city bank") is used in the Japanese sense of the term to refer to one of the Japanese money-center banks. In the case of the large French bank, our investigation focused principally on one of its regional districts. The data shown apply to that district and when needed we make explicit reference to the "regional district of the large French bank". Likewise, in the case of the U.S. multinational bank, our investigation focused primarily on the bank's consumer banking business. Most of the data apply to the bank's North American consumer banking operation and when appropriate we make that reference explicit.

In concluding this introduction, we wish to thank the many individuals in the twelve organizations and the five countries who gave freely of their time, attention, and patience. As researchers, we depend on the kind of critical assistance that we received throughout the study, if we are to develop analyses that are relevant to the formulation of policy. We hope that this report lives up to the level of confidence and trust that these individuals placed in us.

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NOTES

1. "Patrons et Syndicats des Banques Parlent des Surelfectifs. La Sidérurgie de demain" *Le Monde*, February 15, 1986. Also, "La Banque Pourrait Etre la Sidérurgie de Demain", *Le Monde*, February 2, 1979.
2. *Ibid* ., February 15, 1986.
3. Olivier Bertrand and Thierry Noyelle, *Changing Technology, Skills and Skill Formation in French, German, Japanese, Swedish and U.S. Financial Service Firms*, August 1986; and, *Changing Technology, Skills and Skill Formation: The Policy Implications of the OECD/CERI Comparative Study of Financial Service Firms*, October 1986.
4. For an expanded discussion of such a concept of technological change, see Eli Ginzberg, Thierry Noyelle, and Thomas Stanback, *Technology and Employment*, Westview Press, Boulder, Colorado, 1986, Chapter 1.

Chapter 2

FORCES OF CHANGE: THE TRANSFORMATION OF MARKETS

Ever since the mid- and late 1970s, financial services around the world have been characterized by a sharp intensification of competition and a rapid transformation of markets. These changes are leading to the emergence of a new, more dynamic market environment, quite unlike that which characterized the industry during the previous decades. This chapter focuses on the emergence of this new environment in the context of the five countries covered in this study.

To do so, we first review the conjunction of factors that have brought about the new competition – the saturation of traditional markets, the shift to "qualitative" growth, inflation, and financial disintermediation – and the responses triggered by it – primarily, the deregulation and internationalization of financial service markets. We then examine the process by which firms have been turning to new technologies as a means to respond to market changes and a way to alter their competitive position. We find that technology is being used to promote wide-ranging changes, from product and market changes, to changes in organizational arrangements and in the firm's division of labor. Organizational changes and changes in the division of labor are identified here but are explored in greater detail in the next chapter. With this and the next chapter we attempt to specify some of the principal forces that underlie the radical changes in skill and skill formation that we observed in the course of our site visits and that are discussed later in the book.

Clearly this chapter does not pretend to present an in-depth analysis of the transformation of financial service markets in the five countries. There already exist numerous and often excellent studies of the changing nature of financial services in each of the five countries[1]. In addition, the OECD itself has been responsible for a number of reports in relation to its work on the liberalization of trade in banking and insurance services[2]. Rather, the principal purpose of this chapter is to lead the reader into the discussion of skills and skill transformation which is the focus of this book and which begins in earnest with Chapter 3.

The New Competition

To the reader who is unfamiliar with the recent history of the sector, perhaps a puzzling opening observation is the extent of similarities in the current changes experienced by the financial service sectors of the five countries. After all, these are sectors that, for many years, remained fundamentally domestic in nature and protected from outside competition. Part of the answer lies in the following factors:

1. A similar response by firms everywhere to the growing saturation of traditional financial service markets beginning in the late 1970s;

2. A similar transformation of markets everywhere in response to the inflation of the mid-1970s, however isolated domestic financial markets may have been; and
3. The increasing worldwide integration of financial markets, beginning with the rise of the Eurodollar markets in London in the late 1960s and early 1970s, but continuing with the growing internationalization of other financial centers in the 1980s – a major factor that has contributed to bringing national markets closer together. Each of these three major factors are examined briefly in the following paragraphs.

Market Saturation: From Quantitative to Qualitative Growth

A first major cause for recent change in the industry is the growing saturation of the traditional financial service markets beginning in the late 1970s. Up until those years, financial firms expanded their business principally by adding new customers to their list of clients (the period of quantitative growth). But as markets became saturated, financial service firms everywhere were forced to formulate new growth strategies emphasizing expansion through the development of the product offering sold to customers rather than through the addition of new customers (the phase of qualitative growth).

In retail banking (individual consumer banking), for example, the 1960s and early 1970s were years during which banks competed primarily over the number of new households and individuals each would find to open new savings and checking accounts. In the five countries, percentages of households with checking and savings accounts shot up during those years from relatively low numbers (in the 20 to 30 percent range) to almost complete saturation (in the high 90 percent range in countries such as France and Germany). In France and Germany, more than elsewhere, such strategic battles were fought on the basis of a massive expansion of the banks' branch systems. One of our French interviewees referred to this period as "*La Guerre des Boulangeries*" (The War of the Bakery Shops) because the large French commercial and savings banks expanded by buying many of the numerous bakery storefronts that were being vacated as a result of strong concentration in that sector at the time. In 1983, there was one bank branch (including commercial, mutual, and savings banks) for every 1 524 inhabitants in France and 1 541 in Germany as compared to 2 310 in the United States and 2 318 in Sweden.

Similar saturation developed in some of the more traditional retail insurance markets during the 1970s, such as traditional life insurance, although greater differences remained among countries in the early 1980s. Thus, in both France and Japan, where the development of the life insurance market had begun later than in Germany, Sweden or the United States, insurance carriers in these two countries entered the 1980s with still many opportunities for "quantitative" growth.

In France, more than elsewhere, the statistics on bank branching mentioned previously have been seized upon by bank executives to argue that the retail banking market is highly saturated, the branch network overdeveloped, and the sector saddled by considerable excess employment. Such comparison is somewhat spurious, however, since it does not take into account the considerable national differences in the way in which banking is organized. In particular it does not account for the fact that in both the United States and Japan, where regulations keep commercial and investment banking separate, securities brokers have their own large distribution networks. In contrast, France, Germany, and Sweden practise so-called universal banking, and commercial banks distribute securities themselves. Indeed, as the transformation of financial services proceeds and the blurring of markets accelerates, it becomes increasingly clear that the only meaningful comparisons are those based on the employment level for the entire financial sector, not for selected subsectors.

Not surprisingly, such employment comparison, based on Table 1.1 presented in the previous chapter, yields strikingly different findings than those on branch banking. In 1985, the employment/population ratio for the financial sector was: 1:50 in the United States, 1:72 in Japan, 1:78 in both Sweden and Germany, and 1:92 in France. In 1975, the equivalent ratios were 1.64 in the United States, 1:82 in Japan, 1:89 in both Sweden and Germany, and 1:99 in France. In other words, France had the lowest employment/population ratios in both 1975 and 1985; Japan and the United States, the highest ones in both years and also the fastest growing ratios between the two years.

In the five countries, the response to saturation in traditional consumer financial service markets followed the same general direction: product diversification and cross-selling. In the United States, for example, as one of our interviewees put it, retail banking went "from six basic consumer banking products ten years ago to well over 100 today". Similarly, in Sweden, by the early 1980s most of the insurance carriers serving the retail market had begun shifting to strategies emphasizing cross-selling, that is emphasizing expansion through growth in the range of services sold to an existing customer base. Here, too, the aforementioned comparative employment/population ratios for the financial sector are instructive because they suggest that even in a country such as the United States where the overall shift to qualitative growth seemed often more advanced than elsewhere, the new markets did indeed offer opportunities for continued employment growth.

Disintermediation

A second major factor that triggered the revival of competition in financial services was the trend toward financial disintermediation, beginning with wholesale financial services in the mid-1970s, but rapidly spreading to the retail financial services thereafter. In its broadest definition, disintermediation is the process by which users of financial services attempt to satisfy their financial needs outside the traditional financial networks and institutions. At first, the most affected were commercial banks and insurance companies. By the mid-1980s, however, all players had been affected directly or indirectly.

The single most important factor that triggered financial disintermediation was the wave of inflation of the mid-1970s. As the administrative costs of financial services rose and as the interest spread between interest charged for financial services and interest paid on deposits widened (the latter often held back by regulations constraining the interest paid on deposits), large customers abandoned commercial banks and insurance companies in droves and went elsewhere to find better-priced services. In banking, for example, commercial customers abandoned traditional bank borrowing and turned to the commercial paper market for short-term funds, later to the bond market for long-term financing. In property and casualty insurance, commercial customers set up "captive" insurance companies, through which they could self-insure and avoid the high cost of traditional property and casualty insurance.

Shortly thereafter, disintermediation hit the retail markets. In the United States, beginning in the mid- and the late 1970s under the influence of the same widening interest spread, consumers began shifting funds out of their savings accounts or even out of their insurance policies into higher-yield mutual funds. In 1977, Merrill Lynch, one of the largest U.S. security brokers, introduced its now famous Cash Management Account (CMA). By linking a retail broker account to a credit card account, the CMA introduced a degree of liquidity for funds invested in capital markets similar to that available for funds deposited in traditional check or savings accounts. In effect, Merrill Lynch started a revolution which rippled throughout the entire U.S. retail financial service market and, later, abroad.

Since late 1984, for example, France has witnessed the explosive growth of SICAVs, *Clubs d'Investissements*, and similar mutual investment instruments for retail consumers, marking the dramatic transfer of traditional savings into higher-yield investments. In Japan, Nomura Securities joined forces with one of the credit card companies in 1986 to introduce a cash management product similar to Merrill Lynch's original CMA.

In the five countries, a major impact of disintermediation on the liability side was the blurring of the traditional distinctions among demand deposits, savings deposits, and invested funds. On the asset side, disintermediation brought closer together institutional actors, principally commercial banks and investment banks, that often by law, or otherwise *de facto*, had tended to operate in different spheres at least since the 1930s.

Deregulation

Many of the aforementioned changes would not have taken place had it not been for a simultaneous "deregulation" (also called "liberalization") of financial markets. Broadly speaking, deregulation has been directed toward opening up opportunities for: *i)* new geographical markets; *ii)* new products; and *iii)* new pricing techniques.

In the area of pricing, all countries have now lifted or at least altered their regulations regarding the pricing of deposits for large depositors (in the United States, pricing regulations have been lifted for all depositors). The resulting profit squeeze associated with the narrowing of the interest spread has led financial institutions to look for new sources of profits, including charging customers for services once rendered for free and expanding into fee-generating activities. U.S. banks were the first to charge retail customers for services rendered, but other countries are now following suit. In mid-1986, French banks agreed among themselves that they would begin charging customers for checkbooks and checking transactions. However, implementation of such decision in early 1987 resulted in a consumer uproar, leading the Ministry of Finance to ask banks to reverse themselves. Yet there is no doubt that, within a deregulated environment, French banks will need to find new ways to charge for services which they may no longer be able to cover through old-fashioned interest spreads.

In the area of product deregulation, despite some examples of banks and insurance companies venturing into unrelated fields such as travel services, diversification has focused primarily on expanding within the financial markets. This is not to minimize the importance of such major experiments as those of U.S. retailing giants Sears & Roebuck or J.C. Penney, that have attempted to use their networks of department stores to retail a wide array of financial consumer services ranging from car and home ownership insurance, to mortgages, real estate brokerage, securities and tax shelter services; those of Volvo, in Sweden, which has been selling automobile insurance and other consumer financial products; those of chain stores Carrefour and Leclerc in France, now trying to repeat the Sears & Roebuck experiment in that country; or of yet other examples uncovered during our investigation. Such efforts remain few, however, when compared to far more extensive diversification efforts by commercial banks or insurance companies into mutual funds, investment banks and other financial services. In the long run, however, the most extreme experiments mentioned above are important in that they do suggest that, at some point in the future, the traditional distribution networks of financial service firms – including banks' branches, insurance and agent's offices, and so forth – might be ripe for some drastic reorganization and rationalization.

Finally, in the area of geographical expansion, deregulation has also tended to bring the five countries closer together, principally toward a greater geographic integration of their markets. In the Swedish savings and loans industry, institutions once organized on a county

basis (one savings-and-loan bank per county) have been allowed to merge. In Japan, second-tier banks, the so-called "regional banks", have been moving into large city markets, the traditional turf of first-tier banks – so-called "city banks". U.S. retail banks, once confined to states (and in some states, to counties or, even, to one-branch banking only), have begun expanding interstate. In France and Germany, retail banking markets have been somewhat more stable simply because those countries have long allowed nationwide retail banking (although not among the savings and loan banks in Germany).

Internationalization

Yet it is in the rapid worldwide integration of capital markets and wholesale banking markets for large commercial customers that the most dramatic geographical changes have occurred. This development is linked to the formidable worldwide integration of advanced economies through trade after the mid-1970s. More than other factors, the worldwide integration of capital markets – which began with the rise of the Eurodollar markets in the late 1960s –has brought financial institutions from different advanced countries to compete in the same markets and, in the end, a convergence of developments across borders.

Still further, our field investigations suggest that worldwide integration may no longer be limited to large capital markets. In the United States, our interviews revealed that commercial banking markets for medium-sized corporate customers – traditionally the domain of U.S. regional banks – have come under attack from both Japanese and European banks (with the British banks in the lead). In Western Europe, local banks have been challenged by a group of U.S. banks attempting to enter the equivalent European markets, in part by promoting services such as Electronic Cash Management, where they have tended to be ahead of the local competition. Finally, in retail banking, international competition has also arrived. In credit card banking, for example, American Express has grown considerably in Japan and other Asian countries. A few U.S. banks have attempted to enter niches in the European retail markets. British banks and Japanese banks, in particular, have taken a crack at the U.S. market.

The New Technology: Processes and Products

In this context of rapidly changing markets and renewed competition, financial firms are turning to computerized technologies to help them reorganize production processes, develop new products, and in the end better compete. Hereafter, we focus first on the use of computerized equipment for new process technology, and next on its use for new products. We then conclude with some observations on diffusion.

Process Technology

As process technology, information technologies are not new to the financial industries. Indeed, the sector was one of the first to make use of mainframe computer technology when it was first commercialised. From that perspective, then, it seems more accurate to view the introduction of new process technology in the financial sector as having moved along a continuum that dates back to the late 1950s, rather than as having evolved in quantum leaps. On the other hand, as we suggest in the next chapter, it is also true that the technology known as distributed data processing, first introduced in the late 1970s, represents a sharp qualitative transformation from earlier mainframe computing in terms of the impact on labor.

As a way to conceptualize the introduction of new process technology in the financial

sector, one of our interviewees offered a formulation including four major waves of applications, partly sequential and partly overlapping:

- Level one applications, focused on the automation of transaction processing;
- Level two applications, focused on the automation of management reporting or management information systems (MIS);
- Level three applications, focused on the introduction of process technology in the area of distribution, including both the wiring of the front offices and the wiring of the customers' computers directly into the financial service firm's back-office systems; and
- Level four applications, focused on the introduction of algorithmic and artificial intelligence automation to areas of lower-level decision-making procedures.

It is in the areas of transaction, or so-called back-office processing, that computerized technology was first applied beginning in the late 1950s and early 1960s. Among the firms that we studied, the German savings bank, for example, turned to computers for ledger and payroll applications in 1964; the large German bank had done so in 1959. Thereafter, both banks gradually developed additional applications, including the recording of securities transactions, domestic transfer payments, letters of credit, check processing, and many others. The Japanese city bank distinguishes between an earlier phase of back-office automation – linked to the development of mainframe-based applications and focused on the automation of book-keeping and accounting procedures for deposits and remittances – and a more recent phase – associated with the introduction of distributed data processing and focused on expanding processing in areas such as foreign payments, book-keeping on loans, and other transactions.

Level two automation includes the development of applications in areas of financial flow reporting. Its aim is to provide managers and corporate staff with both the data and the tools necessary for more rigorous studies of costs, profits and losses, budgets and related financial analyses. In sectors notorious for their previous lack of knowledge and analytical information about their own cost structures, a major goal of MIS automation since the late 1970s and early 1980s has been to develop sound measures for cost accounting of products and is seen now as a prerequisite to operating on a decentralized profit center basis (more on this in the next chapter). While several of the firms visited reported having begun developing automated cost-accounting systems as early as the mid-1970s, perhaps a more realistic assessment would place the thrust of the main efforts for most firms in the early 1980s.

Level three automation has to do with both the automation of front-office operations carried out traditionally in the offices of insurance agents and brokers, in stockbrokers' offices or in bank branches, as well as the wiring of customers into the firms' own computer systems. To the lay observer this is perhaps the most visible recent effort by financial institutions to reform their way of doing things since it is the one that has changed most directly and most dramatically the way in which customers relate to their banks or insurers. The development of level three automation systems is very much related to the introduction of distributed data processing and is primarily a phenomenon of the 1980s. As our presentation in the next chapter indicates, this is one area of automation in which banks as a group have probably moved faster than insurance companies. In branch banking, this wave of automation has come through the deployment of various systems, including: *i)* on-line tellers' terminals to assist bank tellers in making deposits and withdrawal transactions; *ii)* on-line "platform" computerization to help customer-service representatives (CSRs) with consumer-assistance tasks and sales transactions, such as requests for balance information, opening of new accounts and so forth; *iii)* on-line automated teller machines (ATMs) and cash dispensers (CDs); *iv)* home banking systems for retail consumers, electronic cash management systems for corporate

customers, and other similar systems that permit partial or complete automation of relationships between customers and the firm.

Electronic cash management for corporate customers is one area in which the large U.S. banks have been the trend-setters with some U.S. banks offering first-generation electronic cash management products as early as the late 1970s. By now, however, most large banks around the world have followed in the footsteps of the U.S. banks. The Japanese city bank, for example, introduced its first electronic cash management product in 1982. By 1986, the bank had 50 large corporate customers using the service (generating approximately 200 000 electronic transactions a month) and 200 medium-sized company clients linked to the bank through cash management software packages run on PCs. The growing importance of these systems in reorganizing relationships between banks and their clients is best demonstrated by the example of the North American subsidiary of the Japanese international bank, discussed in some detail in Chapter 5, which was forced to take drastic measures to develop such a product in the early 1980s, short of which its competitive position would have risked further erosion. In their most sophisticated version, these electronic cash management systems provide corporate treasurers with up-to-date account-by-account balance information and give them control over the transfer of funds among the company's accounts. This allows treasurers to invest their unused cash flow into money market instruments and to optimize their use of funds in a world economy that has become characterized by greater volatility in interest, inflation and greater exchange rates.

A number of the banks visited also had been experimenting for a few years with home banking products. Thus far, the French banks were leading this development partly because France's enormously successful nationwide videotext system, the MINITEL, was providing them with a widespread, easy-to-use and heavily subsidized electronic infrastructure through which home banking could be offered. By early 1986, the French regional bank had 3 000 users for its home banking service, introduced just a few months earlier. Except during peak hours, the service was offered free of charge. But compared to other French banks, the bank was a relative latecomer. By mid-1986, several French banks had already enrolled several tens of thousands of customers each for home banking products, introduced mostly around 1983-84. In other countries, the results seemed more mixed either because of slowness on the part of banks in introducing such products (e.g. in Germany) or because the costs and usefulness of the products limited their attractiveness (e.g. Japan and the United States). Still, for example, in the United States the two leaders in the field of home banking, Chemical Bank and Citibank, each already had several tens of thousands of customers for home banking products that consumers operate on personal computers through phone lines. Consumers are charged $10 to $15 a month and, typically, the banks provide the software and a modem free of charge.

The forerunners of these electronic cash management and home banking systems were systems introduced as far back as the mid-1960s which allowed customers to obtain balances, transfer funds and make payments by contacting a bank representative via telephone, later telex and, more recently, facsimile (particularly in Japan).

Paralleling the efforts in so-called electronic home banking, banks also have moved aggressively to automate their front offices. Several examples are examined in the following section where we discuss the diffusion of process technology. Let us simply mention here that prior to the relatively recent introduction of ATMs and CDs, on-line tellers' terminals and platform terminals, banks often had already developed some automated or semi-automated systems. These systems usually were based on the use of telephone connections whereby, for example, branch personnel could obtain information on a customer's balance on the spot by connecting with clerks in back offices working on terminals.

Level four automation involves the development of so-called expert systems. In their simplest form these systems made their entry a while back in the various rating and scoring systems used, for example, by banks in consumer credit policy or by insurance companies in policy rating. More significant, however, partly because of their many possible uses, are analytical software packages such as spreadsheet and data base management programs which are already widely used in many areas ranging from balance sheet analysis to portfolio management. Finally, in its latest and perhaps most advanced version, level four automation includes "program trading", "program hedging" and other software now built into the trading computer systems of some of the largest banks. Such software allows a bank's trading computer to initiate automatic trades, based purely on fluctuations in key market data fed electronically to that same computer.

New Products

What the previous presentation suggests, of course, is that new computerized technology is continually being put to many different uses with an impact not simply on production processes but also on products.

For example, the role played by computerized technology in the development of the credit card represents, at once, process and product technologies. From the consumer's point of view, the credit card represents a relatively new product, filling a need previously not met by existing payment instruments; from the point of view of banks, the development of credit cards assumed the deployment of major computerized systems for transaction processing.

Indeed as better process technology frees firms from the limitations once imposed by semi-automated or manual systems, more and more firms can shift their focus to enhancing old products and introducing new ones. This shift from a production to a market focus was best seen in the ongoing efforts by several of the insurance companies and banks visited to reorganize their data bases from a "product" basis to a "customer" basis. Until recently, computerized data bases typically were organized in such a way that a customer's relationship with a financial institution was recorded on a product account basis, not on a customer account basis. In other words, each customer had as many relationships as he or she had product accounts: a life insurance account, a home coverage insurance account, a checking account, a savings account and so forth. Typically each account gave rise to a weekly, monthly or annual account statement. Today, firms are trying to develop electronic connections among data bases or to reorganize entire data bases so that the many product relationships between individuals and firms can be organized under a single customer relationship. Under the new set up, firms should be able to know better what products each customer uses and thus be in a better position to cross-sell additional products. In turn, individual customers should be able to receive an aggregate weekly, monthly or annual statement from his or her bank or insurance company, in which the totality of his or her relationship is recorded, simplifying enormously record-keeping, bill-paying and so forth. At the time that we conducted our visits, at least one of the banks was already able to generate aggregate monthly statements, including balances on checking accounts, savings accounts, various kinds of investment accounts and payments due on credit lines, mortgages, credit cards and so forth, while others were working on similar developments. Most others were working on similar systems, being very much aware of the potential of such systems to strengthen their competitiveness.

Diffusion

Because technological change is largely about institutional change, as was suggested in Chapter 1, "diffusion" of technology is a very difficult concept to measure in and of itself.

Furthermore, institutional transformation is influenced greatly by differences in business procedures and socio- and cultural traditions. Nevertheless, in the following paragraphs, we try to illustrate the complexities of the relationship between technological change and firm-based or country-based cultural factors, simply by means of examples taken from the transformation of consumer-payment systems in the five countries visited.

To a large extent, all five countries started out with different payment systems. Historically, German and Swedish consumers relied heavily on cashier checks and certified bank transfers as a primary payment mode, necessitating visits by consumers to their local branches to initiate transactions. One German banker explained this by emphasizing that in the aftermath of the collapse of the German banking systems in the late 1930s, payers and payees alike came to distrust both cash and checkbook payments and to ask for a payment system with strong safeguards. In contrast, particularly after the 1960s, French consumers came to rely on checks unlike anywhere else in the world. Individual French consumers today will write hundreds, if not thousands, of checks each year to pay for anything from their daily groceries, dry cleaning or gasoline bills to their monthly rent or utilities payments. By comparison, U.S. and Japanese consumers have long relied primarily on cash payments, ranging from employers paying employees in cash on a weekly basis to consumers walking over to the telephone company's local office to pay monthly bills, again in cash. Since the early 1970s, U.S. consumers have relied on checks more extensively than they used to and, since the early 1980s, there has been a sharp shift to the use of credit cards. In Japan, however, cash remains a major means of payment. For all practical purposes, the checkbook is unknown to consumers, and credit cards, while growing, are not yet as widespread as in the United States.

Faced with these sharply differing situations, it comes as no surprise that when the five countries began rationalizing their payment systems, each chose to emphasize different dimensions. The reliance of Japanese and U.S. consumers on cash seems to partly explain why those countries moved faster and further than others in introducing ATM and CD systems. By early 1986, the Japanese industry claimed to have already deployed nearly 40 000 ATMs and CDs nationwide; and in the United States, there were already 70 000 CDs and ATMs in operation. Indeed, when we visited Japan, some of the largest banks were already replacing less sophisticated cash-dispenser machines, introduced in the late 1970s and early 1980s, with more advanced automated teller machines as shown by the experience of the Japanese city banks reported in Table 2.1. These data are to be compared with Germany's couple of thousand machines in operation nationwide in 1987.

Table 2.1. AUTOMATED TELLER MACHINES AND CASH DISPENSERS IN OPERATION AT THE JAPANESE CITY BANK
1981-1986

	ATMs	CDs
1981	345	485
1982	503	401
1983	558	389
1984	720	341
1985	740	310
1986	843	n.a.

Source: Company data

Table 2.2. THE DIFFUSION OF AUTOMATED TELLER MACHINES, CASH DISPENSERS, POINT OF SALES CARD TERMINALS AND ALL TYPES OF ELECTRONIC CARDS IN FOUR COUNTRIES, 1978 and 1984

	All electronic cards[1] (in millions of cards)		Number of bank card transactions (in millions of transactions)	ATMs & CDs		Point of sales card terminals
	1978	1984	1983	1978	1984	1984
France	3.5	22.0	107	1 000	7 700	27 000
United States	579.0	708.0	2 900	9 750	60 000	6 000
Germany	n.a.	13.0	7	200	1 900	60
Japan	n.a.	n.a.	230	12 800	38 000	n.a.

1. Includes bank cards, charge cards and credit cards.
Source: Olivier Pastré, *La modernisation des banques françaises*, Paris, La Documentation française, 1985, p. 77.

By comparison, Germany, Sweden and France, whose payment systems have relied heavily on paper-oriented transactions (bank checks, payment orders or personal checks), put considerable emphasis on computerizing payment order systems by means of automatic account transfers (giro payments).

Some of the same national differences also help to explain why the Eurocheque – a check with the full guarantee of the bank for amounts under DM 400 or equivalent – became so successful in Germany, why credit cards developed rapidly in the United States, where they became an alternative to the rarely accepted personal check, or why French bankers pushed early the introduction of charge cards and money cards, which they saw as an alternative to the overly extended and expensive use of checks.

Some of these differences are summarized in Tables 2.2 and 2.3. As noted above, the extensive diffusion of ATMs and CDs in the United States and Japan, as shown in Table 2.2, reflects the importance of cash transactions in these two countries. The table also shows the importance of bank card transactions in the United States, involving not only the use of cards in ATMs and CDs but also the widespread use of credit cards for many daily payments (small purchases, restaurant bills, etc.). Keeping in mind the findings of Table 2.2 concerning the use of cash and/or electronic cards in the United States and Japan, Table 2.3 emphasizes the role

Table 2.3. THE EVOLUTION OF THE STRUCTURE OF PAYMENTS IN THE FIVE COUNTRIES, 1978 and 1983

In per cent of currency volume of transactions

	1978					1983				
	Checks	Bank cards	Account transfers (giro payments)		Total	Checks	Bank cards	Account transfers (giro payments)		Total
			Electronic	Manual				Electronic	Manual	
France	86.3	0.8	9.9	3.0	100	82.5	2.1	13.8	1.5	100
Germany	12.0	–	45.8	42.2	100	11.5	–	50.2	38.3	100
United States	92.4	7.2	0.4	–	100	91.7	7.2	1.0	–	100
Japan	n.a.	n.a.	n.a.	n.a.	100	18.6	10.3	56.3	14.8	100
Sweden	25.0	3.0	37.0	35.0	100	20.0	7.0	– 73.0 –		100

Source: Olivier Pastré, *op. cit.*, p. 69.

of checks in France and that of giro payments (credit and debit transfers) in Germany and Sweden. Since the table does not show cash payments, particularly important in the United States and Japan, it overemphasizes the role of checks in the United States and giro payments in Japan relative to other forms of payments.

In conclusion, notwithstanding differences in the way in which the financial service sectors of the five countries are transforming, due in part to national business and cultural factors, the materials presented in this chapter suggest that the revival of competition and the continued introduction of computerized technologies everywhere are contributing to a major shift in focus away from production towards customer assistance, sales, the transformation of old products and the development of new ones. How firms organize to meet this new challenge is the central issue of the remainder of this book.

NOTES

1. See, for example, Olivier Pastré, *La Modernisation des Banques Françaises*, Paris: La Documentation Française, 1985; Joël Métais and Philippe Szymczak, *Les Mutations du Système Financier Français*, Notes et Etudes Documentaires No. 4820, Paris: La Documentation Française, 1986; Federation of Bankers Associations of Japan, *Payment Systems in Japan*, Tokyo, 1985 and *Banking System in Japan*, Tokyo, 1984; Congress of the United States, Office of Technology Assessment, *U.S. Competitiveness in the Services*, Washington: U.S. Government Printing Office, 1987 (especially Chapter 4).
2. See, for example, *International Trade in Services: Banking*, Paris: OECD, 1984; *International Trade in Services: Insurance*, Paris: OECD, 1984; R.M. Pecchioli, *The Internationalization of Banking: The Policy Issues*, Paris: OECD, 1983; Committee on Financial Markets, Expert Group on Banking, *Trends in Banking in OECD Countries*, Paris: OECD, 1985.

Chapter 3

FORCES OF CHANGE: DECENTRALIZATION AND THE NEW DIVISION OF LABOR

As suggested in Chapter 2, renewed competition, as well as emerging opportunities for using the new technology to develop new products and new markets, are putting growing pressure on financial service firms everywhere to compete no longer simply on the basis of their production capabilities but increasingly on the strength of their resources in sales, customer assistance, product development, and innovation. The implications, as observed in each of the twelve firms, are growing pressures to both decentralize and reshape the division of labor. These two developments are illustrated and analysed in depth in this chapter.

Decentralization

Decentralization: Geographical and Organizational

The first major theme of this chapter is decentralization. Our study suggests that, under a new set of market pressures, firms have acted to set in motion not one but two kinds of decentralizing thrusts – one affecting the location of work; the other, the location of decision-making responsibilities. In addition, these two decentralizating thrusts have been either loosely or closely related to one another. For instance, the example of the banks discussed below suggests that firms can manage relatively decentralized employment structures either through centralized decision-making, as was typically the case until recently, or through decentralized decision-making, as is becoming increasingly common. Our discussion also suggests that while the advent of distributed data processing has facilitated greatly the decentralization of both employment and decision-making responsibilities, there need not be a rigorous relationship between technology and decentralization. For instance, our discussion of the example of the insurance companies suggests that decentralization of employment often began prior to the introduction of distributed data processing itself.

Geographical decentralization, i.e. decentralization in the location of work, tends to be driven either by the need to develop a front-office presence close to customers, or by the need to find locations with lower operating costs, especially for back-office facilities, or by both. As noted below, strong pressures to decentralize employment arose as early as the late 1960s and early 1970s in the case of insurance companies, as they proceeded to relocate large parts of their back-office processing facilities away from large, high cost cities. Since the early 1980s, such pressures have taken a new form, not only among both insurance companies but also among banks, as both types of organizations have taken steps to consolidate back-office processing functions into front-office work, typically with the assistance of distributed data processing systems.

Organizational decentralization, i.e. decentralization in the location of decision-making responsibilities, can apply to many areas of responsibility but most importantly to where in the organization decisions regarding market strategies, systems design and, ultimately, investment strategies rest. Organizational decentralization is driven principally by a firm's assessment of how best to respond to competitive pressures.

Broadly speaking, one might argue that the earlier phase of computerization, associated with mainframe computers, tended to favor organizational centralization while the most recent phase associated with distributed data processing has tended to favor greater decentralization. Yet one must be careful not to oversimplify these relationships. Thus greater organizational decentralization might go hand in hand with some degree of increased centralization. For example, computerized management information systems usually attempt to centralize in large data bases information coming from many different points of the organization precisely in order to diffuse better system-wide knowledge throughout the firm.

A major objective of the introduction of mainframe computers in the mid-1950s was to put in place large number-crunching capacity to perform high-volume calculations at great speed and low cost. In labor terms, mainframe technology generated a relatively well defined demand for specialized personnel, primarily systems engineers and analysts, programmers, computer operators, and key punchers. Organizationally speaking, mainframe technology was introduced and developed mostly through centralized systems divisions whose principal mission was to process data and develop new departmental applications. Historically, the organizational power of the systems divisions tended to grow in direct relation to the ability of systems managers to dictate which applications ought to be developed, how they ought to be designed and how departments should reorganize their own work process in order to prepare the data to be processed by the systems divisions' computers. Geographically speaking, the centralization of power was often accompanied by a centralization of narrowly specialized key-punching personnel in large back-office facilities, partly in response to the need to capitalize on scale economies.

In the early and mid-1970s, however, banks and insurance companies began introducing distributed data processing, a far more flexible tool than earlier mainframe equipment, with greater potentials to assist in the decentralization of firms, both geographically and organizationally. First, distributed data processing made it easier to turn over a growing share of back-office processing work to field offices and/or to geographically decentralized processing facilities. Second, it allowed organizations to give field offices better tools to manage and exercise greater decision-making responsibilities without jeopardizing the need for some level of centralized coordination or oversight. In this respect, it made greater flexibility in product design and work organization possible and was indeed a factor in getting user departments to ask for better service or greater autonomy from the systems division than in the past. If anything, the advent of the microcomputer beginning in the early 1980s reinforced the trend toward decentralization by creating ever greater opportunities for final users to take charge. Finally, in labor terms, distributed data processing helped blur the earlier distinction between computer specialists and final users, since part of the data processing work and even part of systems development could now be returned to final users. After all, the great variety of standard application software now available to run on either PCs or distributed data processing systems allows nearly anyone with limited computer experience to custom-program applications.

In the next section, we review how the three insurance firms experienced both geographical and organizational decentralization. In the process we suggest that by the mid-1980s, each of the three firms stood at somewhat different junctures along a continuum

of transformation. We then review the experience of the banks, which points principally to organizational decentralization. Geographical decentralization does not appear to have represented as massive a problem for banks as it did for insurance companies, in no small part because historically the back offices of banks remained less important and less centralized than those of insurance companies. We conclude these reviews with an eye toward understanding how investment decisions in banks and insurance companies have been affected by the trend toward greater organizational decentralization.

The Three Insurance Companies

Of the three insurance companies visited, the Swedish company seemed by far the farthest along in implementing decentralization.

The firm is one of the largest insurance companies in Sweden and sells both life and non-life products. In the area of non-life products, the firm focuses primarily on consumer markets and includes car and home ownership coverage. Many of the firm's products are sold through its agent system, including full-time district managers handling large accounts (group insurance and commercial property and casualty products) and part-time commissioned agents handling consumer accounts. District managers and part-time agents are attached to the 90 or so field offices that now constitute the backbone of the organization. The company has special agreements with a number of Swedish unions that give it preferential access to a number of large group contracts. In recent years, it has experimented with selling car coverage directly through car dealerships and life products through a network of savings banks, in both cases competing with its own agent system.

Until the early 1960s, the company's market was largely restricted to the Stockholm area, with one large headquarters in the city and three additional branches in the metropolitan area. Beginning in the mid-1960s, the company set out to expand throughout the country by developing a network of local field offices. At first, claim adjustment and tariff work continued to be done at headquarters, until the early 1970s when the company began shifting its rating and simple claim adjustment work to several regional processing centers by means of distributed data processing.

By 1980, the firm had 90 branch offices and six regional processing centers, and, for the most part, only complex claim adjustment and underwriting work remained at headquarters. But in the process of decentralizing its employment, several sources of tension had emerged within the company: between personnel managers at headquarters, increasingly removed from the location of most of the firm's personnel, and local managers doing the hiring; between systems divisions managers holding back control and field managers demanding further decentralization of data processing as back-office tasks were increasingly shifted from processing to customer assistance (see below); between centralized marketing managers and field managers wanting more autonomy in customizing their products to local markets; and so forth.

In 1981, the firm decided to dismantle the six regional processing centers and to further decentralize processing throughout the 90 field offices, now organized in 25 districts. In effect, above and beyond resolving some of the tensions that had emerged as a result of an increasingly less relevant distinction between back-office processing and front-office work, the move forced the beginning of a fundamental reassessment of the sharing of decision-making responsibilities throughout the organization. Today, the company's objective is to run the new 25 districts as profit centers, each responsible for its own costs, revenues and profits. The once-strong centralized marketing department has been largely dismantled and most marketing staff have been moved to the district level where they can assist local managers in

customizing each region's market strategy. Within limits, district managers can now factor into their product line regional differences in risks, which translate into different price structures and market strategies.

This fundamental transformation was recognized on July 1, 1985, when the firm shifted from a functional to a regional divisional structure. Headquarters is now organized into six major divisions, including one for each of the three main market segments served by the company – households, industry, and unions. The role of headquarters is to serve the regions where, today, the firm's marketing strategy is not only implemented but also developed. In terms of its computerized system, the company's philosophy is to operate a number of centralized data bases along with extensive decentralization of information inquiry and processing functions. Finally, the company's own unions, which had become increasingly discontented with the central systems division's authority in deciding the whys and hows of computerization, believe that decentralization, by shifting power back to the users, has helped them regain a stronger say over the pace and direction of automation.

The long-term impact of decentralization on the location of the firm's employment is shown in Table 3.1. The most dramatic change occurred in the 1960s when the firm set out to expand its market nationwide through a decentralized organization. Total employment nearly doubled between 1960 and 1971, at the same time that the share of employees located in the branches and regional processing centers grew from less than a third of the total to over 50 percent. Thereafter, employment grew slower while the proportion between headquarters and the field remained stable. It is only in recent years that the proportion between headquarters and the field has begun shifting again, reflecting the impact of the decentralization of complex claim and underwriting work to the district level. In the long run, the company's objective is to shift most of this work away from headquarters. As a result, the company expects another sharp drop in the employment share of headquarters within a few years.

Table 3.1. EMPLOYMENT DISTRIBUTION BY LOCATION, 1960-1984
SWEDISH INSURANCE COMPANY

	Head office	Branches and regional centers	Total
1960	1 200	556	1 756
1971	1 503	1 574	3 077
1982	1 625[1]	1 735	3 360
1984	1 579	1 829	3 408

1. Employment peak at head office.
Source: Company data.

The French insurance company was found to be moving in directions similar to those of the Swedish firm, although it did not yet appear as advanced as its Nordic counterpart. The firm is one of the largest national companies and offers a wide range of products, including individual life, group life, and non-life products. Individual life and group life represent nearly 75 percent of the firm's volume of insurance; non-life, approximately 25 percent. About 85 percent of the life products are sold through the company's own agent system; the remaining life as well as non-life products are sold either by independent agents or by the company's underwriters through insurance brokers.

While the firm began decentralizing some of its processing work for individual and group life insurance away from Paris in the early 1970s, most of its back office remained

concentrated in that city until the late 1970s. In 1978, however, in response to both rising costs and incentives from the French government's policy of decentralization, the company developed a plan aimed at a total decentralization of back-office processing to seven regional centers. That effort was largely completed by late 1983.

Until 1981, decentralization was accompanied by limited automation of back-office tasks, except for what had been accomplished during the mainframe automation phase and for the deployment of early on-line systems around 1972. Full-scale distributed data processing was introduced in individual life insurance beginning in 1981. The process took nearly five years to complete. In 1986 the firm launched a plan to computerize its health group. In late 1986, property and casualty remained largely manual, but was scheduled for computerization beginning in 1987-1988.

In summary, the degree of automation of the French firms lagged somewhat behind that of the Swedish company, where basic on-line automation of back-office work had been achieved and where the focus was now on moving the remaining processing functions out of the regional processing centers into the branches. A major explanation for this time lag appeared to be in the French firm's difficulty in coping with personnel made redundant by automation in an environment characterized by very low turnover rates (see Chapter 5).

Throughout the late 1970s and early 1980s, the primary emphasis was on reorganizing employment geographically, not so much on redistributing responsibilities. In 1983, however, when the last regional processing center opened, the company decided to go ahead with a plan to set up regions as profit centers – each with its own processing center and own field offices. The intent of the plan was to allow each region to better control production costs. As a result, regions began to focus more intensely than in the past on the traditional, costly redundancies in paperwork preparation existing between field offices and regional centers with the same information often collected and processed twice, once in the field offices and once in the regional centers. As the company sees it today, the long-range solution is to move most of the data-entry and data-processing tasks to the agent's premises, but this, in turn, will imply a fundamental redefinition of the respective roles and tasks of the agents and the regional centers. Currently, approximately 300 independent agents under contract with the company have limited access to the company's on-line systems, but the company's own agent network still operates under the old manual systems. Full on-line access by agents – be they independent or company agents – will necessitate developing entirely new systems. Under the new systems, clerical personnel working with the agents will have some authority to price policies, settle claims, and issue payments. The role of regional offices will increasingly be restricted to handling complex claims and underwriting or controlling work carried out in the field offices. However, as of 1986, when this study was completed, much remained to be done.

Of the three insurance firms, the Japanese company seemed the least advanced in terms of both decentralization and the introduction of distributed data processing. As in the previous two cases, the company is one of the largest insurance companies in the country. Until recently, however, the national market was characterized by limited competition. While this is changing, there clearly is still a great deal of room for "quantitative" growth. Headquartered in one of Japan's largest cities, the firm's national expansion picked up steam in the late 1950s when the company developed a network of district service centers, each serving a group of sales offices to which the company's own sales force was attached. In 1986, the firm had 121 such district service centers and 1 800 sales offices. Each district service center employed approximately 50 to 60 clerks plus a few managers; there were approximately 70 000 agents, all attached to the sales offices. These included mostly women working part-time to sell individual life. In addition to the part-time agent, each of the sales offices employed two or

three clerks. Finally, in addition to the 70 000 agents and nearly 11 000 clerks attached to the sales offices or the district service centers, the company employed slightly over 5 000 at headquarters.

Despite some very minimal on-line automation introduced in the district service centers in the mid-1970s, up until 1986 the company had remained organized largely around manual systems. The rudimentary on-line computerization, which was introduced in the district offices in the mid-1970s, consisted in 2 000 numerical-only terminals linked through telephone lines to the company's central terminal and allowing district offices to inquire about the status of pending files. Only 25 inquiries could be transmitted and answered each day through that system. For the most part, then, forms continued to be prepared first, by hand in the sales offices, transmitted to the district service centers where additional forms were prepared, again by hand, and then transmitted to headquarters for processing on mainframe computers. At headquarters, processing remained organized the old way, along functional lines including rating, claim settlement, check and policy issuance, and so forth, regardless of product. The outcome was a rather slow production process – two to three weeks before checks or policies are issued. While the company had made great progress in computerizing processing at headquarters, at its own admission, a major effort was needed to bring computerization to the district service offices. Over the long run, the objective of the company was to computerize so that processing would be fully carried out at the district office level, away from headquarters. At that point, the company might consider running local districts as profit centers. As of mid-1986, however, the company still had some distance to go.

The Banks

As noted in this chapter's introduction, recent decentralization in the banks has been mostly organizational. For all practical purposes, banks with their extensive branch networks have always remained relatively decentralized employment organizations. As was the case among the insurance companies visited, the banks' experience with organizational decentralization varied. On the whole, however, differences from organization to organization did not appear as highly contrasted as we found them to be among the three insurance companies, with the notable exception of the U.S. multinational bank.

Leaving aside the latter for a moment, perhaps the most interesting factor in explaining differences in the timing of decentralization among the six other banks was size. While each bank expressed the same need for greater decentralization, usually in relation to its need to increase responsiveness to the marketplace, the smaller banks seemed to find it more difficult than the larger ones to implement effective decentralization, in part because of the risk of compromising scale economies. In addition, the larger banks with their larger national and often international networks often seemed to have learned earlier than the smaller ones how to strike an effective balance between local autonomy and overall coherence.

Short of a detailed review of the decentralization experience of each and every banking institution visited, the following two examples should be read simply as an illustration of how two organizations – one small and one large – in two different countries responded to the need for greater decentralization.

Until the mid-1980s, the U.S. regional bank was organized under a heavy top-down structure. Whatever back-office processing work had once been done in the branches had long been centralized into two processing centers operated by the systems division. The branches' responsibilities had been reduced mostly to handling routine contacts with customers – individual consumers and local merchants. The branches had no authority over credit allocation to individual consumers, had lost control over back-office processing, and had even

lost their wholesale banking responsibilites for local area businesses, which had been centralized in the early 1970s at headquarters under the authority of a metropolitan division.

In 1985, however, the bank decided to reverse the trend and put in place a new strategy emphasizing decentralization, which it hoped would make the bank more responsive to its local area markets. The strategy focused on reorganizing the bank's 66 branches under the authority of six core-area managing units. At first, under the new plan, each core-area unit was to be given autonomy over marketing strategies for consumer banking and over some credit allocation decisions for local business. In the long run, the bank planned to decentralize additional functions in ways that would build up the role of both the branches and the core-area units in its overall strategic and daily management. As of mid-1986, however, there were clearly tensions within the organization between the older cadre of managers that had long run the bank's centralized operating departments and managers in the branches and the newly formed core areas which were pushing for more autonomy faster.

By comparison, the large German bank shifted to a decentralized system of control earlier, in 1978, when its branch network was reorganized under a system of 42 districts, each responsible for groups of branches. The bank's move, when compared to similar moves by other large German banks, came relatively late, but nevertheless was significant in terms of the redistribution of authority that it implied. A primary objective of management was to return some credit allocation decisions to the district level (up to DM 50 000), in order to shorten lines of decisions and to speed up the bank's response time to its clients' requests.

It is worth noting that in both cases, the shift to a new decentralized structure was not directly associated with any particular development in computerization although both banks were fully aware that any progress at introducing distributed data processing could only facilitate decentralization.

As noted earlier, the one outstanding decentralization experience among the banks visited was that of the U.S. multinational bank. More than any of the other six organizations visited, the bank not only had a clearly stated policy of decentralization but also an extensive practice of autonomy at divisional and subsidiary levels, both within the United States and abroad.

The central idea behind the bank's decentralized approach is to have business managers run their divisions or subsidiaries as independent businesses, with businesses defined either on a geographical basis, product basis, or both. At the business unit level, business managers are responsible for all of their costs and revenues. Each unit develops its own strategic objectives, and funds its own assets any way it chooses, either through deposits or money markets. Each unit can do its own processing, purchase processing services from other units in the bank, or even purchase them from outside suppliers. The enormous autonomy of the divisions is balanced by a rigorous system of oversight by headquarters including *monthly* financial reporting by each business unit and *quarterly* performance reporting of each unit's strategic objectives.

Perhaps what is most interesting about the experience of this particular institution is that the historical record shows that fifteen or so years ago the bank was as centralized as any other bank. Yet in the early 1970s, there was a then-controversial decision by management to reorganize the bank around profit centers and autonomous banking groups. The bank became one of the first U.S. banks to completely separate its consumer banking business from its wholesale banking business, and later in that same decade its traditional wholesale business from its emerging investment banking business. The first decision saw the end of an era when consumer banking was operated largely to generate deposits to fund the assets developed by the wholesale banking group and the beginning of one when consumer banking has come to be

operated as a timely free-standing business. Despite claims to the contrary, none of the other banks visited appeared to have gone as far as this particular bank in instituting true divisional autonomy.

Decentralization: The Underlying Tension

In many ways, of course, all of these examples simply point to the conflicting nature of the pressures to either centralize or decentralize that banks and insurance companies have been facing since the late 1970s. This issue is worth exploring further by taking another look at how firms appeared to be going about deciding on the use of new technology.

From an employment location point of view, for example, both push and pull forces appeared to be applying everywhere. On the one hand, the need to control production costs (primarily labor costs and rents) and to strengthen the firm's relationship to its customers as competition intensified was clearly a strong factor pushing toward decentralization. The cost-control dimension was particularly evident in the case of the insurance companies where not so long ago two-thirds or more of the firms' employees (excluding the sales force) were clerks employed in back-office tasks. On the other hand, the need to achieve scale economies through high volume, when costly equipment was involved, or the need to maintain the integrity of data bases, when a central characteristic of the service was the merging of separate information, remained key factors pushing toward some degree of centralization.

From the point of view of decision-making responsibilities, systems division managers almost everywhere seemed fond of arguing that centralization was needed because confidentiality demands that restrictions be placed on who has access to which data. This did not seem to hinder user departments from arguing equally strongly that the new market competition demands more customization of products and market relationships than in the past, thus demands that processing becomes increasingly organized as an adjunct to the sales effort. Usually the argument of user departments was strengthened by that of those managers who found it increasingly uncomfortable to continue to operate large, heavily-centralized processing centers employing large pools of workers because of the greater potentials for social conflicts. This fear became real in France a few years ago, when employees of one of the largest banks struck one of its data centers and brought the organization to a near halt.

Of course, the balance between these and other conflicting tendencies was rarely achieved through an objective economic analysis. After all, banking experts are still debating whether or not there are scale economies in the production of banking service. In addition, company executives typically lack the data needed to compare investments and returns on hardware and software for both centralized and decentralized systems. So, in the last analysis, the balance between centralization and decentralization is often struck on the basis of institutional power and ideology, heavily influenced by forces rooted in national and firms' cultures. This is best illustrated by the history of the introduction of stand-alone minicomputers and, even more so, microcomputers in the organizations visited.

At one extreme, in accordance with its policy of extensive decentralization, the U.S. multinational bank had long assumed that the costs associated with some loss of integrity in computer systems would ultimately be made up by the gains incurring to the business units as a result of greater freedom in responding to customer demand and to experiment as they saw fit. One result, in the years that followed the shift to decentralization, was a profusion of user-driven technological developments throughout the bank. In 1986, the bank operated literally dozens of data-processing centers throughout its far-flung operations. In addition, from the very first day microcomputers were introduced in the late 1970s, the bank encouraged their use and, by 1986, literally thousands of PCs – of many makes and often

incompatible with one another – were already in use throughout the bank. One might have argued that the informal nature of the U.S. social structure had helped the bank in its experiment with widespread technological decentralization, yet similar extensive decentralization seemed very much in evidence in the bank's operations in other countries which we visited.

Of course, even in this farthest reaching example of decentralization, the firm had felt it to be necessary to establish some level of firm-wide consultation and centralization, if only to avoid bearing the heavy costs of totally anarchic and conflicting developments. Specifically, the firm had put in place a corporate technology committee and a system of region-wide and business-wide committees to allow individual business managers to reconcile their own technological needs with those of the firm as a whole, so that, in those cases where joint, centralized development might be in the best interests of all, such development would indeed take place.

At the other extreme, technological decentralization in the Swedish insurance company seemed to have been driven in part by the systems division's own fear that if it did not decentralize fast enough, it would lose out in its tug-of-war with the user departments. The division had already gone far in trying to accommodate user departments' needs, including providing PC-type software – data base management, computer graphics packages, word processing, etc. – on its mainframes. Nevertheless, despite such efforts at "controlled" decentralization, some of the field offices had already gone ahead and purchased personal computers to run their own applications.

A third interesting case of technological decentralization, somewhat unique among the twelve organizations visited, was that of the French regional bank which, until recently, had lagged considerably in basic distributed data processing. When we visited the bank, it was attempting to catch up by developing integrated networks of microcomputers in both branches and back offices. The strategy, developed in 1982 as part of a comprehensive strategy to give new impetus to the bank, was aimed at developing the use of microcomputers as the common tool for all personnel and all types of computer applications, from basic processing of routine banking transactions to customer balance sheet analyses, credit rating analyses, portfolio management and even word processing.

In launching this strategy, the expectations of the bank's management was that the very process of handing over considerable processing power to local offices would help it to force down decision-making power. The strategy itself was seen as a means to contribute to a change in the whole corporate culture. The question remained, however, whether the process would truly take place or be held back by the same traditional hierarchical structure that it was trying to weaken. In other words, could decentralization simply be ordered from the top or would it demand a far more pervasive transformation of human resources throughout the firm?

In sum, the capacity and willingness of firms to decentralize appeared to hinge on a complex set of interactions among factors, including both economic considerations and cultural forces – both national and firm-specific – with no simple answer as to the ultimate outcome. In purely economic terms, the intensity of local competition seemed to be an important factor in pushing toward greater decentralization. From the point of view of national cultural forces, the Japanese and German firms seemed at times more cautious than those in the other three countries in their approach toward decentralization of decision-making responsibilities often out of a somewhat stronger fear by management of losing overall coherence and control. But in the end, perhaps firm-specific factors were at least as important. A practice of decentralized management demands extensive computerized management information systems in order to assess objectives, performance and results. Yet cost

accounting was introduced in most financial firms at best a decade ago, if not just a few years ago. In addition, the availability of analytical tools clearly did not guarantee the practice of decentralized management. Here the greatest stumbling block seemed to be middle management. A paradox of decentralization, as identified through our interviews, appeared to be that middle managers were being forced to let more of the decision-making responsibilities that they once controlled filter further down the corporate hierarchy, at the same time that their role in orchestrating decentralization, by mobilizing people, was growing. Finally and more broadly, the capacity of firms to carry out decentralization seemed in no small way a function of the overall quality of the labor force, a factor further discussed in Chapter 4.

The Changing Division of Labor

The other major theme of this chapter is the tendency uncovered everywhere toward a fundamental transformation in the division of labor. Broadly speaking, what we observed was a tendency by firms to try to use distributed data processing to move away from Taylorism – a fragmented mode of work introduced earlier in large service firms and often reinforced by the introduction of the first generation of centralized data processing – and replace it with a new division of labor emphasizing the recombination of tasks within a work process, in other words, emphasizing totality over fragmentation.

On the whole, this drive towards recombining tasks seemed quite consistent with the drive toward both increased organizational decentralization and enhanced market responsiveness, since both assume that individuals be given greater control over a wider range of variables. Indeed, such reorganization in the division of labor was found to reinforce the shift from production to sales and assistance tasks, simply by expanding the scope and volume of information made available to those who formerly might have been concerned mostly with processing but who were becoming increasingly involved in assisting customers. In the end, this trend seemed in sharp contrast with that found earlier when financial firms were concerned, first and foremost, with the need to improve efficiency through the development of mass-production systems, emphasizing increasing differentiation among tasks and stages in the production process and between the functions of production and control.

In the past, for example, the traditional organization of work in a bank's branch would have shown a distinction between front-office and back-office activities (the former dealing with customers, the latter with transaction processing); among front-office activities, distinctions between the activities of tellers or cashiers (in charge of executing transactions for customers) and those of platform clerks (account opening) or assistant managers (special inquiry); and among tellers, distinctions among various types of operations.

To a large extent, the first era of computerization aggravated these tendencies. The need to develop software for particular systems applications made methods and procedures, once implicit, explicit. In addition, the need to establish scale economies in the use of mainframe computers led to a centralization of data entry and processing functions distinct from data preparation. It is true, however, that the degree to which Taylorism developed earlier may have varied both by country and by firm, depending partly on the extent to which institutional, labor, or other factors were holding back the process. It would appear, for example, that U.S. firms went further in rationalizing back-office functions during the era of mainframe computing and, partly as a result, in centralizing some of those functions, than firms in the other four countries. Thus, while none of the banks visited in the United States had kept back-office processing functions in their branches, firms from the other four countries had all kept some.

This being said, there remained differences in the rate at which the various firms

appeared to be using distributed data processing to restructure the division of labor. In keeping with the example of bank branches, both German and Japanese banks displayed rather limited automation of both teller/cashier functions and platform functions. For example, the two German banks still maintained the distinction between cashiers and tellers, dropped years ago in most other countries, and their platforms continued to display a profusion of clerical "processing" tasks, including the production on manual typewriters of individual account statements or money transfer statements. German bankers argued that the continued distinction between cashiers and tellers was the result of very tight regulations introduced in the late 1970s as a preventive measure in the war against bank terrorism and demanding that cashiers be protected behind bullet-proof glass. But the introduction of hold-up-proof cash dispensers operated directly by tellers, as seen in one bank branch visited in that country, would tend to mitigate this interpretation and suggest that human resource issues associated with the elimination of cashier positions may have been at least as relevant a factor in explaining the lag. Indeed, French banks which, in the mid-1980s, had to confront a similar wave of bank hold-ups in the Paris region dealt with the problem in a rather different manner. They introduced a system of bullet-proof, locked front doors allowing branch employees to limit access to just a few customers at any one time, in effect surrounding the whole branch – not only a cashier – with a hold-up-proof system.

Notwithstanding the seemingly slow process of branch automation in German banks, banks in that country seemed somewhat more sophisticated than elsewhere in using the branch organization to target customer groups. Typically, this was being done by organizing and specializing groups of tellers, cashiers, platform and processing workers within the branch on a market-segment basis.

Japanese banks still displayed front lines of tellers whose unique function was to receive customers' orders for withdrawal or deposit and to hand them over to a second row of data entry clerks working at on-line terminals. Second-row data entry clerks were themselves backed up by a third row of "checkers", themselves backed up by one or two additional rows of supervisors and managers who could assist when special problems arose. This very traditional division of labor was rather surprising in view of the extensive literature on Japanese manufacturing organizations suggesting that the division of labor in that country is often less formal than elsewhere.

At least two explanations are possible here. First, it is likely that there are strong differences in work organization between Japanese manufacturers and banks (and perhaps firms in other service sectors as well) because, up to now, Japanese banks have not been exposed to as much competition as has been the case for manufacturing firms[1]. In other words, incentives to transform the division of labor in banks have, thus far, been limited. Second, the highly traditional work structure found in the Japanese banks may also be related to the very high proportion of women employed and to the traditional status of women in the Japanese labor force (see next chapter). Since the young women staffing the branches are often not expected to stay beyond their late twenties or early thirties, the incentive to invest in their training through job rotation and a less formal division of labor might be less than it would be with life-long employees. At the minimum, one might ask whether or not this very traditional division of labor conflicts with a growing need for service customization.

In contrast to the German banks, however, Japanese banks offered extensive networks of ATMs where customers could make deposits, withdraw cash and initiate account transfers with no human interaction. But in some ways this development seemed rather typical of what could be observed elsewhere in Japanese financial firms where paradoxically advanced computerized systems were often found next to, but separate from, traditional work organizations, perhaps in an attempt not to disrupt the old work organization.

In comparison to German and Japanese banks, French, Swedish and U.S. banks seemed more advanced in their efforts to reorganize the division of labor in branches through the use of both teller and platform automation. In all three countries, the transformation underway showed a marked shift of emphasis from one side of the bank to the other, namely from tellers and back-office employees to platform and "sales" employees, or put another way, from "order-taking" functions to "sales" functions. In their efforts to effect this shift, banks in all three countries were found to emphasize the development of platform and teller automation systems that could generate information to assist employees not only in serving the immediate needs of customers but also in identifying potential needs. These new objectives seemed a far cry from an era in which tellers and platform personnel patiently and passively waited for customers to request services.

In this respect, the two French banks were rather similar in their attempts at reorganizing the division of labor through extensive reintegration of functions and roles. In the large bank for example, the work of branch tellers was being restructured in conjunction with the introduction of on-line teller terminals and the transformation of the bank's marketing strategy. The bank's objective was to reintegrate branch back-office functions and platform-assistance functions and the teller's job to create a new teller position emphasizing both sales and assistance. Through the use of terminals, tellers could not only process transactions (e.g. withdraw cash, record deposits, order new checkbooks) but also assess the status of customers' accounts and identify unmet needs (e.g. transfer savings into higher-yield instruments). If a customer demonstrated some interest in engaging in such a non-routine transaction, the teller-*cum*-salesperson was able to leave his position and walk over to a private booth where negotiations could be concluded and necessary paperwork completed. In the interim, another teller, or even one of the remaining branch back-office employees, would step in at the counter if needed. From the teller's point of view, such restructuring implied a growing responsibility for customer assistance and sales functions and, hence, called upon a new set of skills (see next chapter). From the point of view of the remaining branch back-office employees, this represented an attempt by the firm to fold them into the new front-office positions.

In the Swedish and U.S. banks, similar developments were observed with one significant difference – the continued separation between tellers' jobs and platform jobs. In both countries, banks were building the new consumer assistance and sales responsibilities into the once passive, order-taking, platform positions while keeping the teller's functions narrowly defined. The distinction being established was between routine, daily transactions to be handled by either human tellers or automated teller machines, and non-routine, extraordinary transactions to be handled by platform personnel. This implied a fundamental change in the pecking order among branch personnel since, in the traditional organization, platform employees were once the lowest ranking clerks while upward mobility was achieved through the teller line. In the new system, however, the teller's job had become increasingly disconnected from the rest of the job structure, and upward mobility was now coming mostly through the sales side.

Of course, changes in the division of labor were not restricted to bank branches. Elsewhere in the banks, similar transformations were observed. In the Swedish bank, for example, we found that following the automation of its stock order-taking system, stock-department personnel who in the past spent most of their time processing purchase and sales orders from clients, and moving such orders back and forth between customers and brokers, now spent most of their time specializing in individual stocks and advising clients on optimal timing for stock transactions.

Among the insurance companies, as was the case with decentralization, the Swedish

insurance company appeared somewhat more advanced than either the French or the Japanese firm in reorganizing the division of labor. In its car-insurance group, a major part of its operation, the company had merged customer assistance with policy-rating functions so that customers could now call and inquire about insurance rates, obtain a quote on the spot, and purchase a policy instantaneously if they so desired. In addition, the company was engaged in further task reintegration by merging simple claim adjustment processing functions with customer-assistance positions. The notion was that, as phone calls came in for claims, customer representatives could not only initiate claim settlement processes but also adjust insurance rates and discuss with customers whether they might want or need different coverage. Going through with such a process of task reintegration was far from being trivial, however, because in the traditional pecking order of the company, claims examiners were at the top of the clerical skill structure, policy raters a notch down, and customer representatives even lower. In other words, while the jobs of the new customer representatives had become far more complex than when all that was needed was entering on a form the name and request of a customer to be sent to a rater or a claim adjuster, the necessary occupational reorganization made for tremendous internal friction.

In the end, of course, as was the case in analyzing the extent of decentralization, many work situations remained characterized by the persistence of rather traditional forms of division of labor, simply suggesting that organizations do not change overnight. Clearly, any organizational arrangement implies some degree of *status quo* and inertia. Managers must grasp the meaning of ongoing market changes, draw lessons from these changes, translate them into new objectives, and then ensure that the new objectives are indeed being carried out. Carrying out new objectives, however, often requires transforming roles, behaviors and skills throughout the organization, raising the stakes for many. Not surprisingly, then, the potential for values, be they national or corporate, to creep back in and influence the pace of transformation is considerable.

This is why we found that much variety remained in transformational scenarios, confirming what has been found by other students of technological change, namely that while market and technological changes can act as powerful mechanisms to trigger organizational transformation, they are nevertheless insufficient in and of themselves to determine the final outcome.

NOTE

1. Despite some liberalization of the Japanese financial sector, aimed principally at opening access by foreign financial firms to Japanese investment banking markets, much of that country's financial service market remains protected and regulated, relative to other countries, especially in the area of consumer financial services.

Chapter 4

A NEW SKILL STRUCTURE

In Chapters 2 and 3, we identified both *similarities* in the broad environment of change affecting the twelve firms studied – particularly, renewed competition, increasing diffusion of distributed data processing, growing decentralization, and work reorganization – and *differences* in the pace of transformation of individual firms – rooted in both national and firm-specific factors. In addition, Chapters 2 and 3 helped us to point out major differences between the emerging era and earlier years, when financial service firms were characterized by great stability and continuity in products and markets and when early computerization tended to reinforce the tendency toward centralization of functions and Taylorization of work. The result of many of the changes identified thus far is, not surprisingly, a profound transformation in the demand for skills by firm.

How are skill structures being reshaped? The issue can be examined in three principal ways: by identifying the impact of recent changes on the demand for new competencies; by assessing their impact on the occupational structure of firms; and by reviewing the process by which firms are trying to meet the demand for new competencies.

This chapter examines the impact of recent changes on the demand for competencies and on the occupational structure of firms. In Chapters 6 and 7, we will review how firms are adjusting by both altering their interaction with labor markets and reshaping educational and training processes. As it turns out, it is in these adjustment processes that some of the greatest differences remain among firms, differences that are usually linked to both national and firm-specific factors.

The New Competencies

A major finding of our investigation is the widespread tendency for a dramatic decline in the volume of clerical processing work performed, until recently, manually by lower-tier personnel (with some assistance of mainframe computers for data crunching). This remarkable contraction in old-fashioned clerical processing work is the result not only of automation, but also of the transformation of work done by personnel in the middle and upper rungs of a firm's occupational structure. As automation proceeds, firms are either reintegrating remaining data-entry or processing tasks into other tasks carried out by employees in sales and customer assistance positions or shifting the burden over to customers themselves (as in the case of cash dispensers, automated teller machines, and on-line cash management systems). Paralleling this transformation in data processing and data handling, increasing competition is generating new demands for both sales and assistance personnel and for specialists able to identify new markets, conceive new products, develop new systems and

Table 4.1 THE CHANGING NATURE OF SKILLS IN BANKS AND INSURANCE COMPANIES

Old competencies	New competencies
Common emerging competencies	
1. Ability to operate in well defined and stable environment	Ability to operate in ill defined and ever-changing environment
2. Capacity to deal with repetitive, straightforward and concrete work process.	Capacity to deal with non-routine and abstract work process.
3. Ability to operate in a supervised work environment	Ability to handle decisions and responsibilities
4. Isolated work	Group work; interactive work
5. Ability to operate within narrow geographical and time horizons.	System-wide understanding; ability to operate within expanding geographical and time horizons.
Specific emerging competencies	
Among upper-tier workers	
1. *Generalist Competencies*. Broad, largely unspecialized knowledge; focus on operating managerial skills	*The New Expertise*. Growing need for high-level specialized knowledge in well defined areas needed to develop and distribute complex products
2. *Administrative Competencies*. Old leadership skills; routine administration, top-down, carrot-and-stick personnel management approach; ability to carry out orders from senior management.	*The New Entrepreneurship*. Capacity to not only manage but also set strategic goals; to share information with subordinates and to listen to them; to motivate individuals to develop new business opportunities.
Among middle-tier workers	
1. *Procedural Competencies*. Specialized skills focused on applying established clerical procedural techniques assuming a capacity to receive and execute orders.	*Customer Assistance and Sales Competencies*. Broader and less specialized skills focused on assisting customers and selling capacity to define and solve problems.
Among lower-tier workers	
1. *Specialized Skills* focused on data entry and data processing.	Disappearance of low skill jobs.

sell the new, often complex services (swaps, futures, etc.). Finally, these shifts are creating a demand for a new kind of leadership capable of promoting decentralization, holding together this new matrix of competencies, and developing new role models for business unit managers as administrators, strategic planners and entrepreneurs.

The outcome of this profound process of skill transformation is the emergence of a new matrix of competencies that may be viewed in terms of new skills that are being substituted progressively for older ones. Some of these new competencies are common to both middle- and upper-level workers; others are specific to various groups within the occupational hierarchy. These new competencies are summarized and contrasted to old ones in Table 4.1 and are discussed below.

Common Emerging Competencies

Among the competencies that are in growing demand across the entire occupational spectrum of the firm are those that assist individuals in coping with and responding to the new

work environment. This new work environment distinguishes itself from the old one in some of the following ways:

1. Stability and continuity that were once the norms have now given place to relentless change. In particular, tasks and organizations that were once rigidly defined are now becoming increasingly ill defined and ever changing in response to rapid transformation of markets, products and technology;
2. A work process that was once relatively straightforward, repetitive and concrete – involving, for example, processing paper and files in sequences that changed little from one operation to the next – is becoming more abstract and less repetitive – requiring, for example, processing transactions by machines, but customizing the "service" part of the transaction to the individual needs of customers;
3. The new workplace demands that individuals be given higher levels of decision-making responsibilities, the result of the growing complexity of the systems within which work takes place, a less divided work process, and the need for a finer customization of the relationship between customers and firms; in other words, the new workplace needs individual workers who are able to make decisions and formulate solutions that can meet the unique demands of customers;
4. The new work environment demands that employees work increasingly in group situations and/or in interaction with others – be they customers, suppliers, or others within the firm. In other words, individual workers must be better equipped to explain, negotiate and communicate;
5. The new work environment, characterized by expanding time and space horizons, partly as a result of the new computer communications technology, demands system-wide understanding. For example, on-line systems put files stored and developed outside of a branch within reach of branch employees, enlarging the pool of resources at their disposal to develop solutions. To operate in several capital markets at once, traders must understand how economic variables of many countries affect financial markets differently. Likewise, the shifting emphasis to a market-segment approach has put employees increasingly in contact with customers who may be located far from where they live or work.

Specific Emerging Competencies

Paralleling the emergence of this broad base of common new competencies, the transformation in the skill structure also points to the development of new competencies specific to various groups within the occupational hierarchy.

Among upper-tier workers

Firms must confront a growing need for high-level specialists as distinct from traditional operating managers. Increasingly, these high-level specialists must complement, rather than replace, operating managers whose own skills are also changing. Thus:

1. Whereas traditional managers tended to be trained as generalists, firms must find and maintain high levels of expertise among a broad group of individuals whose training may be highly specific but nevertheless increasingly important in carrying out the firm's mission, be it in areas such as computer systems, telecommunications, legal counselling, market research and product marketing, mergers and acquisitions, swaps, and others. These new, high-level skills must often go hand in hand with a strong capacity to interact with others, as the new specialists increasingly are called

upon to create, develop, implement and/or sell new products or new systems that are meant to be responsive to the needs of their final users – be they a customer of the firm or a user department within the firm.

2. Paralleling this development, operating managers are being called upon to move away from skills that once emphasized simply the ability to administer departments, manage personnel, and carry out strategies under policies dictated by senior management, toward competencies that emphasize not only administration but also the ability to set strategic goals for individual business units; to share information with subordinates and to listen to them; to motivate individuals; in the end, an ability to bring to the business unit a new sense of entrepreneurship.

Among middle-tier workers

The aforementioned changes in the environment met by upper-level personnel are being matched by shifts affecting that of middle-tier workers more directly, and, in particular, a shift from a work environment that in the past demanded from middle-tier workers principally specialized skills focused on routine, clerical procedural techniques, to one that values less specialized but broader competencies focused on the capacity to assist customers and on the ability to sell the firm's products. Increasingly, then, middle-tier workers find themselves in work situations in which they must be able to both define the problem and its solution rather than simply apply ready-made solutions to standard problems.

Among lower-tier workers

Finally, among lower-tier personnel, the trends point to a continued shrinking in the firm's need for low-level clerical skills as automation drives firms towards eliminating most, if not all, routine clerical tasks.

The New Occupational Structure

To what extent is the transformation of the matrix of competencies reflected in a transformation of the past and present occupational structure of firms. Attempting to answer that question raises a number of conceptual and empirical difficulties. On the one hand, we might expect to see indications of ongoing changes in the form of occupational shifts, reflecting lesser employment of some type of personnel (e.g. clerks) and greater employment of others (e.g. professionals) by individual firms. To a large extent, however, such a shift can only take place as firms hire new employees and retire old ones, with some lag between the time when firms assess the need for change and when the occupational shift truly occurs. On the other hand, to the extent that the transformation underway is also, and perhaps even more importantly, a transformation in the content of work, taking place within occupations themselves, then the transformation is only imperfectly captured in occupational shifts.

The difficulties associated with separating out satisfactorily occupational shifts from work content shifts are compounded by empirical difficulties. First, with the exception of the Swedish insurance company, none of the firms made available to us historical series describing occupational shifts. Furthermore, even in the case of the Swedish insurance company, the time series made available to us were unfortunately too short (1981-1985) to identify the impact of change on transformation of the firm's occupational structure. We were able to assemble data for the entire financial sector in France and the United States for the period of the mid-1970s

to the mid-1980s, but, for reasons discussed below, both sets of data also have limitations. Furthermore, in terms of measuring shifts in work content, only data different from traditional occupational structure data could help in fully identifying the nature of the transformation. While some firms did offer data that attempted to measure that dimension of the transformation, we simply were not equipped to develop a sound basis for analysis and comparison.

Table 4.2. OCCUPATIONAL STRUCTURE IN THE SWEDISH INSURANCE COMPANY, 1981 and 1985

	1985			1981		
	Both sexes	Men	Women	Both sexes	Men	Women
Managers and professionals	23.4	36.3	9.3	22.0	34.4	8.5
Technicians	13.3	18.6	7.7	13.7	19.0	7.6
Clerks	55.7	38.5	74.5	56.6	39.3	74.6
Service workers	7.6	6.7	8.6	7.9	7.3	9.3

Source: Company data

With these restrictions in mind, Table 4.2 presents shifts in the occupational structure of the Swedish insurance firms between 1981 and 1985. The table tends to confirm the evolution that should be expected, that is, a trend away from clerical and service-worker employment toward technical, professional and managerial employment, but the shifts remain relatively limited in percentage terms: a shift of 1.4 percent away from the former toward the latter. In a recent study, however, Noyelle obtained data from a large U.S. insurance company for a longer time period: 1971 and 1982[1]. These data are reproduced in Table 4.3 for the purpose of comparison. The data show a very substantial shift – over 10 percentage points – away from clerical occupations toward sales, technical, professional and managerial occupations during the period 1971 and 1982. (Note in Table 4.3 that the small decline in the share of managers between 1971 and 1982 is due to reclassification of some managers into the professional and technical groups in 1982.)

Table 4.3. OCCUPATIONAL STRUCTURE IN A LARGE U.S. INSURANCE COMPANY, 1971 and 1982

	1982	1971
Managers	15.1	17.1
Professional and technical personnel	29.2	16.0
Sales	15.4	10.4
Clerical	39.0	50.8
Others	1.2	5.1

Source: T. Noyelle, *Beyond Industrial Dualism*, *op.cit.*, p.93.

Tables 4.4 and 4.5 show the evolution of the occupational structure in the financial sectors of France and the United States for the periods 1978-1983 and 1976-1985 respectively. Both tables also seem to suggest a continuing shift from the least skilled to the most skilled occupations. There are problems with both sets of data, however. The United

Table 4.4. OCCUPATIONAL STRUCTURE IN THE FRENCH BANKING AND INSURANCE SECTORS, 1978 and 1983

	1983			1978		
	Both sexes	Men	Women	Both sexes	Men	Women
Executives, senior managers and professionals	15.01	25.39	5.10	13.74	23.34	4.42
Junior managers, junior professionals, technicians and upper-level clerks	26.40	31.89	21.19	23.86	29.32	18.63
Skilled clerical and sales employees	49.60	34.07	64.43	51.61	33.66	66.13
Unskilled clerical	7.82	6.81	8.78	9.58	8.82	10.32
Blue-collar and others	1.17	1.84	0.50	1.21	4.85	0.50

Source: INSEE, *Enquête Structure des Emplois*, 1978 and 1983.

States revised its occupational classification quite extensively in 1982. As a result, the data for 1976 and 1985 are not fully comparable. As with the French data, the figures are fundamentally biased because the French occupational classification is largely based on wage classifications, which are strongly influenced by seniority, and imperfectly reflects occupations defined by job content.

To repeat, however, we should not lose track of the other dimension of the skill shift, namely the transformation in the content of work within occupations – a dimension of change that occupational shift data can only capture in a limited way. Indeed, the difficulty in developing an analysis based on occupational data was illustrated vividly in the recent debate over the U.S. Department of Labor's Bureau of Labor Statistics (BLS) long-term projections (1985-1995) of future employment growth in the United States, a debate that spilled over into Europe, partly because many saw in the BLS projections a confirmation of their worst fears that the service economy was creating mostly low-skilled jobs[2]. In a nutshell, the BLS projection showed that while the *most rapid* employment growth, in terms of annual rates of increase, would continue to be in managerial, professional and technical occupations, the *largest* employment growth, in terms of the number of new jobs, would continue to be in what BLS regards as relatively low-skilled occupations – cashiers, nurses, sales clerks, office clerks, secretaries, etc. The difficulty with the BLS analysis, however, was not so much with the quality of its projections as much as with the Bureau's failure to point to the widespread transformation in the skills demanded by many of these occupations – in our case, for example, in the skills demanded from bank or insurance clerks in 1985 compared to those demanded in 1975.

Table 4.5. OCCUPATIONAL STRUCTURE IN THE U.S. FINANCIAL SECTOR, 1976 and 1985

	1985			1976
	Both sexes	Men	Women	Both sexes
Managers and professionals	27.5	35.8	22.4	25.2
Sales	24.0	36.5	15.4	21.5
Clerical	41.1	13.7	60.1	44.3
Service Workers	3.9	7.1	1.6	5.2
Blue-collar workers	2.4	6.9	0.5	3.8

Source: U.S. Department of Labor, *Employment and Earnings*, January 1977 and January 1987.

In conclusion then, the transformation underway in the skill structure of banks and insurance companies remains difficult to assess quantitatively, in no small part because of the lack of data measuring both occupational shifts and shifts in the content of work. In the absence of such measures, the next two chapters present surrogate measures of this transformation of skills as reflected in the firm's drive to both find higher skilled individuals and upgrade the skill preparation of their own labor force.

NOTES

1. From Thierry Noyelle, *Beyond Industrial Dualism*, Boulder, Colorado: Westview Press, 1987, Chapter 4.
2. *Monthly Labor Review*, November 1985.

Chapter 5

ADJUSTING TO THE NEW SKILL STRUCTURE: THE ROLE OF THE LABOR MARKET

Faced with a changing matrix of competencies, there are two principal ways in which firms can adjust and meet the new labor force requirements: they can renew their pool of personnel by increasing their hiring in the external labor market and altering entry requirements; or, they can upgrade their human resources by increasing their investment in training.

Renewing the pool of personnel through the external labor market can be effected by using labor force turnover to the greatest extent possible. New hirings allow firms to bring a new mix of people with different sets of skills and with higher levels of educational attainment. The presumption is that a better educated labor force will be better equipped to handle future change. In addition, turnover facilitates the introduction of new work arrangements – including increasing use of temporary and part-time work and out-sourcing –that allow firms to achieve a better match between resources deployed and resources needed to meet the demands of the marketplace.

Generally, quit rates are related to both retirement rates and job-hopping rates. Retirement rates are a function of the age structure of the company's labor force, which is itself a function of earlier rates of employment expansion. Job-hopping through the external labor market is both cyclically and structurally induced. Thus, tight labor markets are often characterized by high degrees of job-hopping as workers see diminished risks in changed jobs. Also, some countries are characterized by greater job-hopping than others (e.g., the United States compared to France) regardless of the business cycle, partly because of a tradition of looser attachment of workers to particular firms.

Alternatively or simultaneously, firms may also respond to the need for change by increasing company-based training and retraining. Together, internal and external adjustment mechanisms must be seen in relationship with the firm's need for greater flexibility, where flexibility is defined as the attempt by firms to better match inputs and outputs in markets characterized by rapid changes in supply and demand.

Our site visits suggest both similarities and differences in the way in which the twelve firms are adjusting. In good part, observable differences in patterns of adjustment stem from the labor relations, educational, and labor market environments of each of the countries. The objective of this and the next chapter is to identify and explain these similarities and differences. This chapter emphasizes adjustment through the labor market; the next looks at adjustment through firm-based training, which is largely related to the educational experience of the labor force.

To help describe some of the similarities and differences at work, we first present four case examples of adjustment. These are not meant to exhaust the complete range of situations observed in the course of our visits, but simply to point out possible linkages among various adjustment processes. Next, we summarize briefly the constraints that each country's labor relations environment places on firms. We then review systematically the extent to which the twelve firms have been able to alter their labor force composition through labor market adjustments including turnover, changes in the age composition of the firm's labor force, shifts to greater use of part-time employment, changes in educational attainment, and changes in career and internal mobility structures.

Four Examples

The German Savings Bank

The bank is located in a university town, and its market is restricted to the surrounding county. As are other savings banks in Germany, the bank is member of a network of local savings banks and cooperates with a state bank which handles large corporate customers and performs international operations for local banks. As a result, individual consumers and local small- and medium-sized companies constitute the bank's primary clientele. The bank has a dense network of local branches through which it controls, by its own estimate, nearly 60 percent of local deposits. For the past ten years or so, the bank's assets have grown steadily with the growth of the local economy: approximately 3 percent annually between 1975 and 1980, and 2 percent in the following years. In comparison, total employment at the bank has remained steady since 1980, and quit rates and hiring rates have remained within a 3.5 percent to 5 percent range between 1980 and 1985.

Within an environment characterized by relatively high stability, the bank's human resource policies in recent years illustrate how the bank has used the opportunities opened by turnover to raise the educational attainment of its labor force. In other areas, changes have been minimal. The bank's use of part-time employees has varied little in the 1980s. And, for that matter, in recent years the bank has substituted a few permanent bank employees (both full-time and part-time) for occasional hires that were once used in odd jobs such as the transport of cash, some back-office processing, as well as catering and cleaning. Back in the late 1970s, however, the bank had taken steps to hire a shift of part-time employees to staff peak business days, mostly at the beginning and the end of the month (nearly 10 percent of all employed).

Since the early 1980s, the principal change has been in the trend toward recruiting people at a higher level of educational attainment. Between 1978 and 1985, the share of those hired as permanent employees with no previous bank apprenticeship training decreased from 35 percent to 10 percent; conversely, the share hired with apprenticeship training grew from 65 percent to 90 percent. In addition, there has been a sharp rise in apprentices who have completed 13 years of formal education (*Abitur*) prior to apprenticeship: from 15 percent in 1975 to 76 percent in 1985. Under the German system, discussed in the next chapter, the firms run the apprenticeship programs themselves but are free to hire or not to hire apprentices when they complete the program.

In the past, the apprenticeship program was the major entry point for career positions within the bank and tended to favor men over women, who usually were hired below the apprenticeship level. Yet, in addition to rising entry-level requirements for its apprenticeship program, the bank set in motion two further changes. First, the bank increased the hiring of women in its apprenticeship program, in part because of a tighter supply of young men at the

Abitur level. By the mid-1980s, a majority of the recruits in the bank's apprenticeship program were women. Second, for the first time in 1985, the bank recruited on an experimental basis a small group of male college graduates. Upon hiring, they were placed in an 18-month on-the-job training program, outside the standard apprenticeship program. While at the time of our visit the future of this particular program remained under evaluation, its introduction along with changes in the apprenticeship program was consistent with the bank's concern for rising entry-level educational requirements in response to what it perceived as the rising skill level of bank jobs. Perhaps, more importantly, the introduction of this program pointed to a possible shift away from the bank's traditional reliance on a single-entry point employment structure to a new reliance on a multiple-entry point structure, a trend found among banks in other countries and discussed at greater length later in this chapter and in Chapter 7.

The Japanese Multinational Bank

The second example is that of the North American affiliate of the Japanese multinational bank, mostly a wholesale banking unit. Recent changes at the bank provide an illustration of the impact of the new technology on high-level employees.

For many years, the bank benefited from an almost exclusive relationship with a group of Japanese firms heavily specialized in international trade. In the early 1980s, however, threats to the bank's hold on its traditional market began growing. First, as the bank's traditional customers became involved in the U.S. economy increasingly through direct investment rather than through imports only, their needs for banking services became more diversified and more complex, demanding a more extensive geographical presence than that which the bank could then offer. In addition, large Japanese corporate customers like their competitors elsewhere in the world began turning to banks for new types of "investment banking" service or for specialized transactional business – such as advanced cash management services, foreign currency or interest swaps – rather than for traditional commercial loans. By the mid-1980s, the bank had taken steps to reposition itself by expanding its base of banking services, developing new services, and aggressively seeking new business among local middle-market corporations. But this repositioning occurred in an environment in which tough competition had emerged, particularly from the largest U.S. banks which had been very aggressive in developing new resources, expertise and markets.

Because wholesale banking has traditionally involved a broad array of transactional services, wholesale banking organizations have long been characterized by many small departments and by large numbers of managers and professionals working either in operating departments or in front-line positions with corporate customers.

In the mid-1980s, nearly 40 percent of the employees in the bank were in officer or para-officer positions. Historically, clerical positions were filled by new employees, typically recent high school graduates who learned the business as they moved up the corporate ladder. In an environment characterized by little change in products or markets, this was a relatively riskless way of operating and transferring knowledge. In this respect, the bank was typical of most other banking organizations.

It was clear by the early 1980s, however, that the new banking environment was beginning to strain the organization. As the need to introduce new, typically computer-based, products grew, so did the bank's need for specialists and experts to develop and sell new products: systems engineers, systems analysts, actuarial specialists, bond traders, interest swap traders, foreign currency traders, etc. Yet, like many others in its business, the bank

trained more "generalist" managers than it could absorb, while what it truly needed were "specialists" to help develop new products and remain competitive.

Lacking both the expertise and the scale necessary to develop new resources in-house rapidly and efficiently, the bank was then forced to purchase a corporate cash management system from an outside vendor and to recruit specialists in the outside labor market to remain competitive. Specialists brought from the outside came to include system analysts and programmers to work on computerization projects, traders to develop a trading department, a strategic planner to rethink the bank's relationship to the U.S. market, and even a few human resource and personnel managers to refocus the bank's human resource strategy.

At first, these decisions were seen as one-time changes. By 1986, however, senior executives recognized that they were no longer dealing with short-term adjustments but with a long-term process of change affecting the way in which the bank ought to develop its expertise. By then, for example, the bank had identified the need for well-trained account officers to serve its corporate customers and had begun recruiting U.S. business school graduates to staff positions in its credit analysis and loan departments as an alternative to internal promotions. Likewise, in its systems division, the bank had established a mechanism by which software development projects were systematically staffed partly with in-house personnel and partly with outside specialists hired on a project-by-project basis.

Clearly, change brought tensions. The bank's older cadre of managers found it difficult to hire specialists, lacking sufficient knowledge of the new specialized skills to pass proper judgment. In addition, the hiring of outside specialists was disrupting the bank's policy of filling positions from within, as was the decision taken by the new human resource managers to no longer promote clerical employees to officer positions. Finally, it remained unclear as to how well the new and old talents would mix, how the new specialists would maintain the right level of expertise, in short, how the bank would manage its new professional and managerial labor pool.

The Japanese City Bank

Some might quickly argue that the previous example is very "unJapanese," mostly a by-product of the location of this particular subsidiary and largely atypical of what other Japanese banks were doing at home. But as we found, there is considerable evidence that other Japanese banks have also been undergoing major changes, as is illustrated in the following example of the domestic operations of the Japanese city bank.

While assets and income at the Japanese city bank have continued to grow steadily throughout the 1980s, beginning in the late 1970s the bank was faced with increasing competition in many of its traditional domestic markets. In response to rising competition, the bank began refocusing its human resource policies, with an eye toward reducing costs and improving productivity, partly through increased flexibility. The latter was to be accomplished in several ways: expanding the use of out-sourcing and part-time employees and raising the educational attainment of the firm's labor force.

As with other Japanese banks, the bank had long had a policy of subcontracting many of its nonbanking functions, such as building maintenance, janitorial services, catering, and even telephone operator services. In the 1980s, however, this policy was expanded, including such areas as software development.

More importantly perhaps, the bank sharply increased its use of part-time employees: from nearly insignificant numbers in 1982 to almost 12 percent of its staff by 1986. The new part-time workers, largely a substitute for former full-time staff, are hired by a subsidiary of

the bank and not by the bank itself, permitting the bank to offer wages and benefits less generous than those it offers to its regular full-time staff.

The new part-timers are all mature women. Nearly 95 percent of them worked for the bank before their childbearing years (see below for a more detailed discussion of the work experience of women in the Japanese labor market). While the salary of the bank's part-time women is higher than the going market rate for other part-time workers, it is clearly below that of employees who have stayed with the bank. This is so partly because wages in Japan are largely based on seniority which women lose as they retire temporarily from the labor force.

Part-timers work 13 days a month, from 9:30 a.m. to 1:30 p.m. (full-time schedule is 8:45 a.m. to 5:00 p.m.), for a maximum of 21 hours per week compared to the 41 hours worked by full-time employees. Of the normal 25 working days per month, part-timers must work during at least five peak days. They can, then, choose the remaining eight days as they please.

In addition to these developments, the bank began emphasizing higher educational attainment among new hires. Among men, the proportion of new hires with a four-year college degree grew from 62 percent in 1977 to 100 percent in 1984; among young women, the proportion of new hires changed from 100 percent high school graduates in 1977 to 60 percent high school graduates, 35 percent two-year junior college graduates, and 4.5 percent four-year college graduates in 1984.

In most respects, these changes appeared quite similar to those experienced by other Japanese banks in recent years.

The U.S. Regional Bank

This fourth and last example illustrates a similar process of transformation in newly hired labor and in work arrangements in one of the two U.S. banks. It also points to some of the tensions that have arisen within the bank, between its "old" ways of doing things and its need for a "new" strategy.

The bank is a medium-sized institution, located in a major regional market center. Until the 1970s, as one of the nation's oldest banks, the bank had always been surrounded by an aura of never-ending stability and resiliency. Its products were few; its technology, simple. Its large branch network system was very much a part of the city's neighborhoods. Most branch employees came from the neighborhood or its surroundings, which typically meant inner-city minority employees in downtown branches, or white employees from blue-collar origins in branches located in residential neighborhoods. The labor force was very set in its habits, customs, and ways of relating to the outside world. Beginning in the 1970s, however, the city, like other large U.S. cities, underwent a major transformation of its economic base. Its role as a business service center grew, resulting in a sizable gentrification of some of its population and neighborhoods. Meanwhile, banking customers – both individuals and businesses – became not only more demanding, but more sophisticated in their demands.

In the mid-1970s, the bank embarked on a new strategy emphasizing breaking out of its traditional regional market and developing a nationwide clientele of large corporate customers. But the strategy failed dramatically. By the early 1980s the bank came under enormous pressure to regroup and to reemphasize its local businesses – both consumers and middle-size firms. By then, however, the local market had become far more competitive.

One of the bank's first efforts was to adjust the branch staffing patterns to traffic patterns. Until 1984, the branches were staffed entirely with full-time employees. Typically, each branch employed ten to twelve employees including three or four tellers, four to six customer service representatives (CSRs), one manager, and one assistant manager.

Beginning in 1984, the bank expanded its use of part-time employment by splitting every full-time branch job, opening into two part-time jobs. The primary goal was to create a part-time shift of tellers and CSRs to staff peak hours including 11-to-3 Monday through Thursday, and 11-to-close-of-business on Friday.

As it proceeded with the replacement of full-time employees by part-time personnel, the bank used the opportunity to effect a shift in the educational preparation of its branch personnel. Whereas historically branch personnel had been hired at the high school level, if not lower, the bank consciously advertised the new jobs so as to reach college-educated women seeking part-time employment. Later, a similar emphasis on college education was applied to replacement hiring for full-time branch personnel. This dramatic shift in hiring requirements reflected the bank's assessment that to be a player in the new consumer banking market, it needed to shift from its old emphasis on "order taking" to a new emphasis on "selling," partly by means of a better-educated labor force.

Complementing these efforts, the bank viewed the increase in automated banking as a crucial step in the transformation of its branch banking business. The bank introduced its first ATMs in the early 1980s and in 1983 accelerated the development of its teller terminal automation program – a program originally begun in the late 1970s but then discontinued for a few years. In 1986, the bank put in motion a branch platform automation project. In the first phase of the project, platform automation was aimed at giving CSRs access to on-line information on customers' accounts and transactions; in the following phase, platform automation would allow CSRs to open accounts directly on terminal-based systems; and at an even later stage, it would give CSRs the tools to assist customers in planning financial decisions.

In the short run, the introduction of automated systems in branches proved to be far more difficult than first envisioned. This was so not only because of the lack of experience of the systems department in developing user-friendly distributed data processing systems, but more the branches' work environment, putting new pressures on the old human resources.

From the bank's perspective, the new banking environment demands that branch employees now play a strategic role in managing the bank's ongoing relationship with customers and in selling the bank's products. This is a major shift in the formerly passive nature of most branch jobs, especially for a bank that is left with large numbers of its older employees. As the bank saw it in mid-1986, the bank would continue – within limits – to seek adjustments through the labor market. Most likely this would not be enough, however, and adjustment would also need to come from expanded and fundamentally revamped in-house training programs.

The Labor Relations Environment

Many of the changes illustrated in the previous section cannot be divorced from the labor relations environment within which firms operate. As a result, it is useful to summarize here some of the distinctive features of such an environment in each of the five countries and their impact on the labor market variables directly relevant to the twelve firms studied.

In Sweden and the Federal Republic of Germany, the labor relations environment in the financial sectors is strongly determined by the existence of powerful unions and strong "co-determination" labor agreements.

In Sweden, over 90 percent of the bank and insurance employees are unionized, through separate banking and insurance unions affiliated with TCO, the white-collar union, and some through locals affiliated with LO, the blue-collar union. The current labor relations

environment is a direct outcome of two co-determination agreements signed, respectively, in 1974 and 1979 by TCO, LO and SAF (the Swedish Employer Association). Through the co-determination agreements, unions have gained a say over firm-specific issues related to both technological change and strategic planning in return for allowing firms to proceed with technological change relatively unhindered. The practice of co-determination requires ongoing consultations between management and the unions via various committees. While firms are not obligated to take the unions' suggestions into account, there is ample evidence that, more often than not, in areas of job design, occupational safety, and ergonomics, firms have tried to accommodate the unions. The unions also appear to have a strong say over the use of the "Renewal Fund" – a program intended to finance primarily new investment, training, and retraining programs (see Chapter 6).

In contrast to Sweden, unionization rates are much lower in German financial firms, oscillating between 15 and 25 percent. By law, however, labor contracts signed between unions and employers must apply to all workers, regardless of their affiliation to a union. As in Sweden, however, Germany is characterized by a labor relations environment strongly shaped by a co-determination agreement, in its case dating back to 1972. As in the case of Sweden, the German co-determination agreement emphasizes extensive consultations among social partners on technology and firm strategy. Co-determination is carried out through a firm-based work council whose primary responsibility is to ensure ongoing dialogue. In the two German banks visited, much of the consultation carried out by the councils appeared to have been centered on the issue of technological rationalization, worker displacement, and worker retraining. In both cases, very few layoffs appeared to have resulted from the introduction of new technology, partly because of concerted efforts to plan ahead and work through the displacement issue by means of retraining and turnover. In one case where a few individuals were laid off, the council had played a central role in providing job placement assistance and adequate financial compensation.

There are some similarities between the Japanese labor relations environment and the Swedish and German environments: strong influence by the unions and regular consultation between unions and management regarding the firm's current and future technological and strategic objectives. In contrast to Sweden or Germany, however, Japan does not have a formal co-determination policy and Japanese unions are enterprise unions, not industry unions. But being enterprise-based, Japanese unions often demonstrate, without the need of a co-determination agreement, a keen sense of interest in the company's strategic future. It should be noted that some have argued that co-determination in Germany and Sweden has forced unions to behave more and more like enterprise unions rather than industry unions.

In France, the rates of unionization are low, and the unions are divided not only by sectors but also by ideological stand. The low rates of unionization are somewhat misleading since, as in the case of Germany, agreements worked out by unions within an industry typically apply to both unionized and non-unionized personnel. Nevertheless, real ideological differences tend to both limit the bargaining power of unions and make it difficult to develop a climate of ongoing dialogue especially, as in the French banking sector, if management is rather conservative in its attitude vis-a-vis the unions. Still, several recent developments have contributed to reshaping the labor relations environment in the French banking sector.

First, in 1985, several banks denounced the old collective bargaining agreement which set the rules for job classifications, pay scales and promotions. Bank executives want to reduce the weight of seniority in favor of individual performance and gain some flexibility in linking pay and promotions to individual productivity.

Second, for several years now, several banks have hammered away at the issue of

overstaffing and at the resulting need for layoffs or for greater flexibility in work arrangements. In early 1986, one French bank announced that employment would shrink, mostly through early retirement but also through layoffs of a few employees. More broadly, a number of the banks have decided to extend the opening hours of their branches (mostly into the weekend) as a way to redeploy human resources and some have actually offered to reduce the actual working time of their employees. Partly because they have been divided in their assessment of the overstaffing issue, the unions have not been able to set out clearly the conditions under which job displacement, retraining, and related issues should be addressed.

Finally, however, one of the major unions did sign a sectoral agreement on technology in 1986 that provides some guidelines and gives the union some room for discussing with management the implications of technological change for employees.

Compared to the other four countries, the financial sector in the United States is distinguishable by its almost total lack of a union presence. In the U.S. banking sector, barely half a dozen banks are unionized, including only one large bank, SeaFirst of Seattle, a major bank in that city and today a subsidiary of Bank of America. Furthermore, through the 1977-1986 period, SeaFirst had no collective agreement because management reneged on an earlier agreement. In mid-1986, however, the courts forced the bank to reinstitute an agreement.

There is limited unionization in the insurance sector, primarily at Blue Cross/Blue Shield, the country's largest carrier of primary group medical coverage. A few years ago, one of the affiliates of the Service Employee International Union (SEIU) attempted to unionize one district office at the Equitable Life Assurance (the third largest U.S. life carrier), but the campaign turned out to be very costly for the union.

Having learned a lesson from the Equitable campaign, several unions are now attempting to map a strategy to increase unionization in the insurance sector. Undoubtedly, if the campaign were to succeed, it would nevertheless take years to bear fruit.

The Role of Labor Market Variables

With the four case examples and the previous short description of the labor relations environment in each country serving as a backdrop, attention can now be focused on a finer examination of key labor market adjustments.

Labor Force Turnover

Adjusting the firm's labor force to the new skill requirements is rendered easier if turnover rates – both quit rates and new hires – are high, since firms can then move deeper into the labor market to find new personnel with different types of skills – assuming, of course, that such personnel is available on the external labor market.

Table 5.1 summarizes new hire rates for eleven of the twelve firms visited. The table shows sharp differences among four groups of firms: the U.S. firms with unusually high rates of turnover (rates of 15 percent or more of new hiring); the Japanese firms with high turnover (annual rates between 7 and 8 percent); the Swedish and German firms with low, but still significant rates (between 5 and 6 percent); and the French firms with unusually low rates (less than 3 percent).

Typically, rates are influenced by several factors:

Table 5.1. TURNOVER AND EMPLOYMENT IN ELEVEN OF THE TWELVE FINANCIAL FIRMS, 1980 and 1985

Both sexes and full-time and part-time workers combined

	Hire rates[1]	Employment	
		1985	1980
U.S. multinational bank			
Domestic	n.a.	32 300 (1983)	n.a.
North American consumer banking group	23.0	n.a.	n.a.
U.S. regional bank	15.0	3 627	3 731 (1981)
Swedish bank	4.7	7 931	7 231
Swedish insurance company			
Excluding sales force	5.7	3 408	3 331
German savings bank	5.5	1 182	1 168
Large German bank	4.1	24 154	n.a.
French regional bank	2.8	10 268 (1984)	10 295 (1982)
Large French bank regional district only	1.3	909	932 (1983)
French insurance company			
Excluding sales force	2.5	7 665 (1984)	7 765 (1982)
Sales force only	44.3	4 730 (1984)	5 222 (1982)
Japanese insurance company			
Excluding sales force; full-time only	7.3	13 744	13 826 (1975)
Men	2.0		
Women	10.5		
Sales force only	40.0		
Japanese city bank			
Full-time only	7.8	15 836	n.a.
Men	2.6		
Women	11.2		

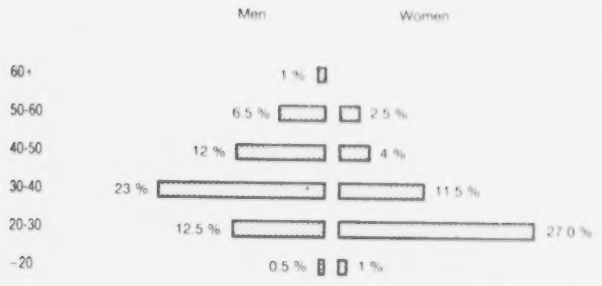
1. New hires as percent of total employment.
Source: Company data.

- Overall employment expansion or contraction of the firm itself. In general, average quit rates tend to drop as employment growth slows, making opportunities to find new hires more restricted than they would be otherwise;
- The greater or lesser tradition of job-hopping in local and national labor markets;
- The overall age structure of the firm's labor force, which can translate into greater or fewer retirement-related departures; and
- In Japan at least, where many working women still retire temporarily during childbearing years, turnover rates are influenced by the sex composition of the firm's labor force.

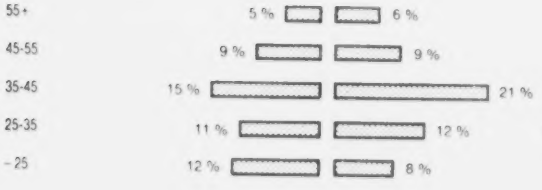
As is shown in the last two columns of Table 5.1, these turnover rates occurred against the background of recent (1980-1985) employment growth in about half of the firms – mostly the German and Swedish institutions – and stagnation or even some decline among the other

Table 5.2. **AGE STRUCTURE: THE BANKS**
(in per cent)

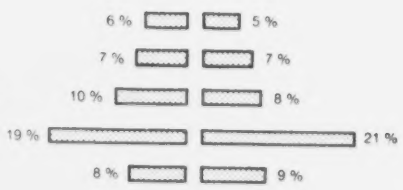
German savings bank
1985



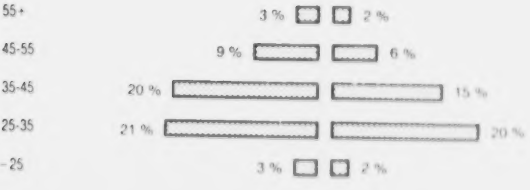
Swedish bank
1985



1975

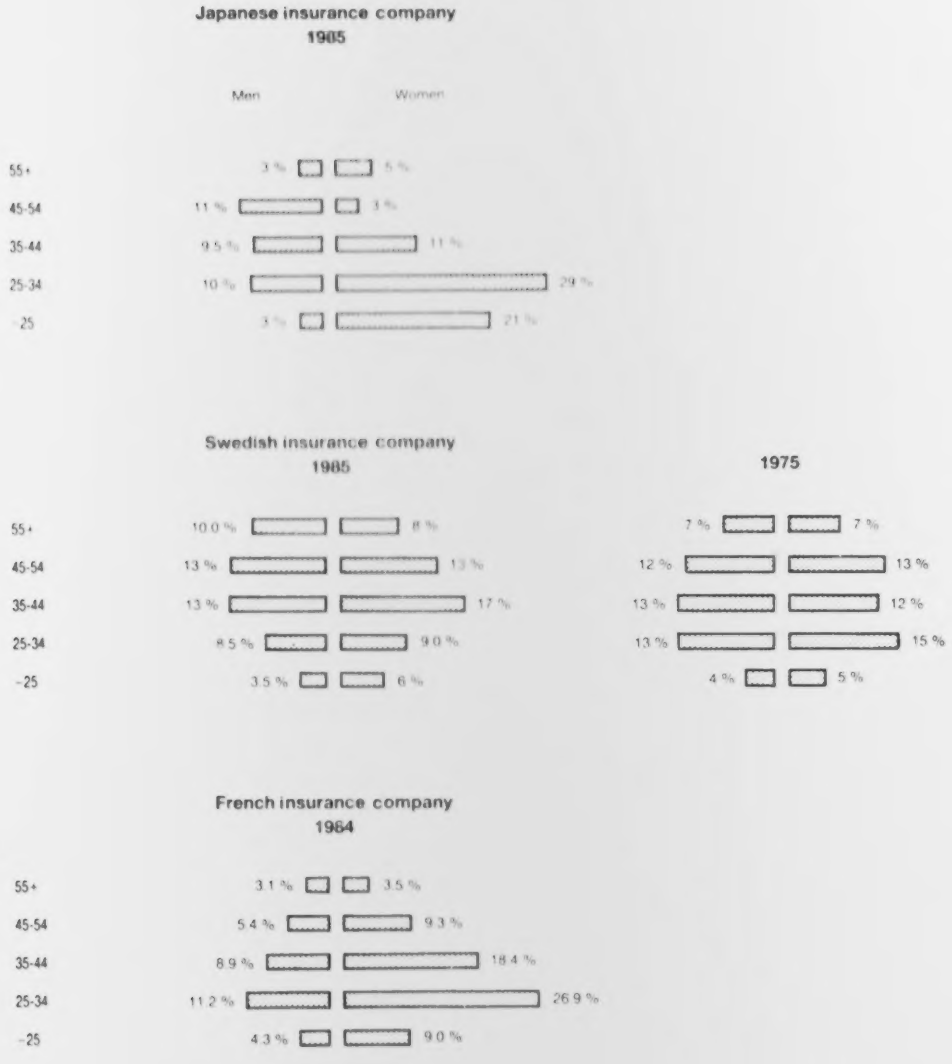


French regional bank
1984



Source: Company data.

Table 5.3. **AGE STRUCTURE: THE INSURANCE COMPANIES**
(excluding sales force, in per cent)



Source: Company data.

half – mostly the French and the Japanese firms (with some questions, however, about the cyclical nature of these trends and the reliability of the trends in Japan when part-time employment is included in the data – see our discussion of data limitations in Chapter 1). At best, the mixture of firms with high and low turnover in both groups would seem to suggest that differences in observed turnover rates have as much to do with local tradition of job hopping and with age structure as with employment growth or decline.

For anyone not familiar with U.S. labor markets, turnover rates among U.S. firms stand remarkably high and deserve additional comments. In general, the average rates shown in Table 5.1 disguise even higher rates among bank tellers, with both firms reporting annual turnover rates in the 50 to 60 percent range. In one case, annual turnover rates had risen to nearly 100 percent a few years back, at which point the bank had to take measures to bring the rate down because of the high opportunity costs borne by the firm as a result of constantly looking for new people and always lacking experienced personnel. Clearly, however, high turnover rates were not confined to these lower skilled positions, an increasingly smaller share of the banks' total employment (between 10 and 20 percent of total employment). In both banks, we found ample evidence of extensive job-hopping through the external labor market among higher-level employees, especially among specialized professionals in areas such as systems and software, marketing, human resources, and many of the new high value-added areas of bond trading, swaps, currency trading, and the like.

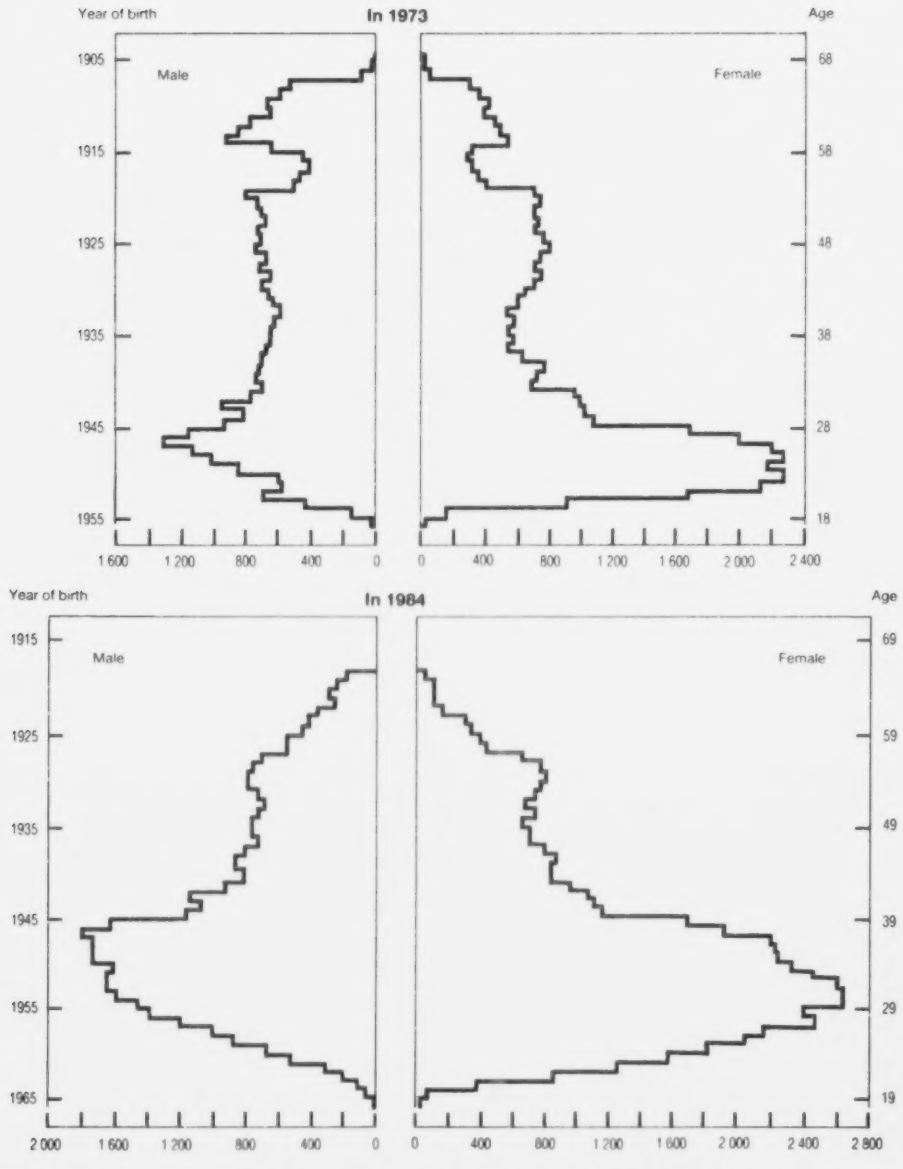
Turnover among the Japanese firms is most unusual, reflecting a highly dualistic situation characterized by relatively low rates among men and high rates among women, which are due to the peculiarities of the Japanese labor market. Through much of the postwar era, the pattern among Japanese women has been to withdraw from the labor force in their late twenties, in anticipation of child-bearing years, and to reenter in their forties, back again at an entry-level status. Increasingly, in recent years, many have returned as part-time employees of subsidiaries set up by their former employers to contract out part-time workers. The labor market behavior of women in large Japanese firms sharply contrasts with that of men, who traditionally have been placed in life-time employment paths from their early twenties on. In financial industries, in which women often represent upward of half of the firm's labor force and are employed in those occupations that are most directly subject to technological displacement, this peculiar labor market behavior has given Japanese firms far more leeway to adjust than it might have seemed at first.

In view of these findings on the U.S. and Japanese firms, we must conclude that the lower turnover rates found in the European firms reflect largely those employers' higher commitment to life-time employment to workers of both sexes than in the United States or Japan. The surprising finding, of course, is that for Japan. Indeed, our analysis suggests that Japanese institutional commitment to life-time employment, at least in the financial industries, is much looser than is usually assumed. While Japanese are quick to argue that their commitment is culturally based, i.e., inscribed in a long tradition of employers' attachment to their employees, clearly a different commitment applies to women. Moreover, the outside observer might simply point to the fact that while informal guarantees of stable employment can easily be extended during a period of steady expansion (roughly speaking the past 35 years in Japan), such guarantees might just as easily weaken as Japanese financial firms begin to meet new competition and are forced to undergo rationalizations and reorganizations.

In addition to contractual or informal commitments guaranteeing employment, the age structure of a firm's labor force affects turnover rates and, perhaps, its adaptability. A heavily middle-aged labor force may imply low rates of departure, especially in the context of labor markets characterized by life-time employment systems. In addition, an aging labor force, set

Table 5.4. **THE EVOLUTION OF THE AGE STRUCTURE IN THE FRENCH INSURANCE SECTOR**

1973 and 1984



Source : *Évolution de l'emploi dans les sociétés d'assurances*, Fédération française des sociétés d'assurances, 1984.

in its ways of doing things, may constrain a firm's capacity to adapt. On the whole, the European firms seem more heavily saddled by this constraint than the U.S. or Japanese firms, partly because the labor force that they recruited during the heyday of expansion in the mid- and late 1970s, within a context of guaranteed life-time employment, is approaching middle age.

Looking at the age structures shown in Table 5.2 for three of the banks (the German savings bank, the French regional bank, and the Swedish bank) and in Table 5.3 for the three insurance companies, the German savings bank, the French regional bank, and the French insurance company seemed most heavily burdened by the age structure of their labor force. By 1985, over 75 percent of the labor force of the German savings bank was below the age of 40; over 80 percent of the French regional bank's labor force below the age of 45; and over 78 percent of the French insurance company's labor force below the age of 45. In comparison, the employment bulges in the two Swedish firms were further up the age pyramid, that is, closer to retirement years.

In the Japanese insurance company, there was a heavy bulge in the firm's age pyramid associated with large numbers of young women under age 35, representing a staggering 50 percent of its labor force. There was little risk attached to this bulge, however, since most of these young women were expected to leave the company by or shortly after the age of 35. Problems associated with age structure in the German and French firms are made clearer by Table 5.4 which shows the slow maturing of the age pyramid in the entire French insurance sector between 1973 and 1984.

The conclusion from this examination of turnover rates and the factors bearing on their behavior is, of course, that the European firms appeared far more restricted than their U.S. or Japanese counterparts in their ability to adjust through turnover, with the French firms in the most difficult position.

Educational Attainment Among New Hires and the Firms' Current Labor Force

Data made available to us by the twelve firms confirmed the overarching desire by these institutions, in all five countries, to use turnover to seek a labor force with higher levels of educational preparation than in the past. This trend can be explained in two ways. It is partly a response to the ever-growing availability of a better-educated labor force – the result of the enormous investment in education made by the five countries since the second World War – but also partly a response to the need for employees equipped with better scholastic preparation (see Chapter 6).

The magnitude of recent shifts is shown in Table 5.5 which presents the educational attainment of new hires in five of the twelve firms for both 1976 and 1985, measured by years of education: less than 12 years, 12 years (*Abitur*, *baccalauréat*, high school, etc.) and more than 12 years (i.e. some college or university education). Note that from here on through the remainder of this book the only basis for educational comparisons is the number of years of classroom education. We make no attempt to evaluate, implicitly or explicitly, the quality of those years of education by countries. Two findings stand out from Table 5.5. First, by 1985, none of the firms for which data were available recruited below the 12-year educational level, except for a few employees in the German savings bank. Second, there remained major differences among firms in their hiring of college educated personnel; in percentage terms, such hiring was large in the Japanese, U.S. and French firms, but low in the German and Swedish firms. In the case of the French firm, however, the large proportion of new hires at the college level represented only a few individuals since the company's hiring rate was very low. In other words, the impact of such hiring on the educational attainment of the labor force was

Table 5.5. EDUCATIONAL ATTAINMENT OF NEW HIRES

In percent

	1985-86			1976-77[1]		
	Less than 12 years	12 years	More than 12 years	Less than 12 years	12 years	More than 12 years
Japanese insurance company						
Men	0	0	100	0	28	72
Women	0	13	87	0	100	0
German savings bank	15	80	5	85	15	0
Swedish bank	0	80	5	n.a.	n.a.	n.a.
U.S. multinational bank						
North American consumer banking	– 20 –		80	– large % –		small %
French regional bank	0	29	71	39	45	15

1. 1982 for the French bank.
Source: Company data.

very limited. By comparison, the impact of the shift on the overall labor force of the Japanese and U.S. firms was much greater since hiring rates were much higher. These differences are shown in Table 5.6, which presents the educational attainment of the entire labor force of five of the firms visited for both 1975 and 1985. At one extreme, the Japanese firm stands out because of the very high proportion of its employees with some college education. At the other extreme, the two French companies stand out because of the extremely large proportion of their employees with less than a complete secondary education (less than 12 years). The standing of the Swedish insurance company is somewhat difficult to assess fully because the available data cover only employment at headquarters with relatively older personnel, excluding employment in the branches and regional district offices with a relatively younger labor force.

Table 5.6. EDUCATIONAL ATTAINMENT OF FIRMS' ENTIRE LABOR FORCE

In percent

	1985			1975		
	Less than 12 years	12 years	More than 12 years	Less than 12 years	12 years	More than 12 years
Swedish bank	24	61	15	29	60	11
Swedish insurance company[1]	69	20	11	n.a.	n.a.	n.a.
French insurance company	69	22	9	n.a.	n.a.	n.a.
French regional bank	75	– 25 –		n.a.	n.a.	n.a.
Japanese insurance company						
Men	0	36	64[2]	0	51	49
Women	0	70	30[3]	0	100	0

1. Headquarter employees only – see text for explanation.
2. Mostly 4-year college education.
3. Mostly 2-year college education.
Source: Company records.

Table 5.7 EDUCATIONAL ATTAINMENT OF THE LABOR FORCE IN THE FINANCIAL SECTOR OF JAPAN, GERMANY AND FRANCE, 1982

In percent

JAPAN	Less than high school	High school	Junior college (2-year)	College (4-year)	Total
Life insurance	4.3	45.9	15.4	34.4	100
Non-life insurance	1.4	24.5	26.3	47.7	100
Commercial banking	3.7	62.0	5.7	28.6	100

GERMANY	Less than Abitur		Abitur		Some college	Total
	Without apprenticeship	With apprenticeship	Without apprenticeship	With apprenticeship		
Financial sector	19.5	67.5	2.9	3.4	6.6	100

FRANCE	Less than baccalauréat	Baccalauréat	Some college	Total
Financial sector	65	25	10	100

Sources: *Censuses of Population*, for Germany and France. *Cash Earning Survey*, Central Labor Commission for Japan.

These findings confirm sectoral data available on the educational attainment of the labor force in the financial sectors of Japan, Germany, and France. The sectoral data are reproduced in Table 5.7 and show very high proportions of high school and college graduates in Japan (12 years and above), high proportions of less than *Abitur* graduates *with* apprenticeship training in Germany, and high proportions of employees without a *baccalauréat* education in France (less than 12 years).

These data point to another difference, namely the role of entry-level apprenticeship programs in Germany, France, and Sweden. The issue is explored in more detail in the next chapter. But it is useful to note here that German banks and insurance companies today hire new employees almost exclusively among those having completed apprenticeships and that most apprentices are now hired into apprenticeship programs with a minimum of a complete *Abitur* education (13 years). German apprenticeships are run jointly by employers and the *Länder*. In addition to on-the-job training, they provide youngsters with what may amount to a couple of additional years of classroom education.

In comparison to Germany, apprenticeship training in France and Sweden takes place after new employees have been hired and, in the case of France, is not compulsory. This difference is illustrated in Table 5.8, which shows the share of personnel in both the German savings bank and the French regional bank with or without apprenticeship training. While by 1985 nearly three fourths of the employees of the German savings bank had gone through apprenticeship, in the French bank only half had. This difference was further compounded by the higher educational preparation of entry-level apprentices in Germany compared to France.

For one who is unfamiliar with international comparisons, the low levels of educational attainment (measured in number of years of formal classroom education) uncovered in the French financial firms might be one of the most ominous findings of this study, since it is usually assumed that labor force adaptability is positively correlated with the level of

Table 5.8. SHARE OF PERSONNEL WITH APPRENTICESHIP

In percent

	German savings bank		French regional bank
	1977	1985	1985
No banking apprenticeship	34.9	27.3	50
Banking apprenticeship	40.8	45.4	47
More than banking apprenticeship	24.3	27.3	3

Source: Company data

educational preparation. Still, this peculiarity of the French firms is not unique to those employed in the financial sector but instead is widespread throughout the country. It reflects the outcome of an educational system that has long been elitist, focusing on excluding rather than including students as years of education increase, in order, ultimately, to channel a small share of young people into high-level professional schools at the five- and six-year university level (business and engineering degrees in private universities, DES and like degrees in public universities).

Such a system, which might have served France well during earlier times when manufacturing and agriculture dominated the economy, would appear increasingly out of touch with the needs of a service-based economy that seems to demand high levels of educational preparation across a broad spectrum of the labor force.

Mobility Structure

What emerges from the previous discussion is the notion that firms in the five countries remained characterized by differing strategies in meeting their need for trained workers, based in part on differences among countries in the respective role of firms and educational institutions in preparing the labor force. Here, however, it is useful to distinguish between entry-level workers and workers higher up in the firm's occupational hierarchy. It is also important not to lose track of the fact that above and beyond differences, we observed a convergence of trends everywhere.

In terms of entry-level workers, the previous analysis suggests a long-established distinction between Japanese and U.S. firms on the one hand and the European firms on the other, with the latter historically characterized by greater internalization of skill formation at the entry level than the former. We explore this distinction further in the next chapter.

Still, how far did this difference carry over to personnel higher up on the corporate ladder? To an overwhelming extent, throughout the five countries the rule used to be that managerial and executive positions in financial firms were filled through internal promotions. Nevertheless, our research suggests that such a practice is coming under attack everywhere, even though considerable pressures remain to preserve it and even though the degree to which firms are evolving towards a different staffing system for middle- and upper-level managers differs from firm to firm or country to country.

One of the reasons why the old system is being threatened appears related to the fact that many of the new management positions demand a command of high-level specialized skills that firms may not always be in a position to develop efficiently in-house. Another reason, of

course, is the growing availability of college-educated youth, forcing firms everywhere to reassess how they should position themselves vis-a-vis the external labor market in order to best use such a supply. The sum total of these and other pressures is a widespread tendency among firms to shift from the old one-entry point career system to a multiple-entry point system suggesting a more extensive reliance on the external labor market.

While we found this to be the case particularly in the United States and France, clear signs of change were in evidence in the other countries as well. In the United States, most firms will now hire at three different levels: at the high-school or two-year college level to fill openings in the new clerical and technical positions, at the four-year college level for junior professional and managerial positions, and at the professional school level (six years after high school) for executive or high-level professional positions. In France, however limited recent hiring by banks and insurance companies has been, it has been mostly among graduates from engineering and business schools or from equivalent university programs as a means to staff managerial and professional echelons directly from the external labor market.

Forces pulling in favor of maintaining the single-point hiring system would appear to remain somewhat stronger in Germany, Sweden, and Japan, the result of both union pressures and company culture. And yet, in Japan, for example, despite the official discourse that no employer ever hires anyone in the external labor market except for entry-level positions, we found the rule to be amended in many ways. Japanese banks operating in the capital markets of New York or London have discovered that they often cannot respond fast enough to the quick pace of change short of taking drastic measures to acquire the needed skills in the external labor market. Furthermore, such behavior is no longer limited to the firms' operations outside Japan. In Tokyo, there is now a small but growing stream of Japanese managers who have begun to behave more like their New York and London counterparts, unafraid to leave their former Japanese employers to go and work for foreign financial firms expanding in that city. By all accounts, headhunters have had some success in raiding Japanese banks for traders specialized in the Samurai bond market and other banking specialists. Last but not least, we found that in late 1985 and early 1986, several of the largest Japanese banks including one of the firms that we studied had finally decided to break the golden rule and hire senior professionals from the external labor market. In the particular example that we investigated, the firm had hired a group of 20 or so executives in their early and mid-forties, in an attempt to bring new blood and new skills to its Tokyo headquarters.

In Sweden, we found that while firms felt under strong pressure to preserve the single-track system, particularly from the unions, in practice they too were changing. For example, for all practical purposes, the Swedish bank had already taken steps to shift to a three-entry point system, including a dead-end track for part-time tellers, a slow track for high school graduates to staff the bulk of its clerical positions, and a fast track for college graduates. In addition, in some of the growing areas of new activities, especially those linked to the bond and stock markets, the bank admitted that it had been forced to hire specialists from the outside labor market. Finally, as was noted earlier on in this chapter, the German savings bank had decided to hire college graduates, if only on an experimental basis.

Part-time

Another major indicator of the profound human resources adjustments underway in the financial sector of the five countries is the growing use of part-time work arrangements. Table 5.9 summarizes data available for eight of the twelve firms. The data suggest that by the early 1980s the use of regular part-time employees was well established in both the German savings bank and the Swedish bank. In addition, since the early 1980s the German

Table 5.9. PART-TIME AS PERCENT OF TOTAL LABOR FORCE, 1975 and 1985

In percent

	1985	1975
German savings bank	18	24 (1977)
Swedish bank	25	27 (1980)
Japanese city bank	12	0 (1982)
Japanese insurance company (excluding sales force)	6	0.5
French regional bank	8	6 (1982)
French insurance company (excluding sales force)	5	n.a.
U.S. regional bank (tellers only)	25	n.a.
U.S. multinational bank (tellers only)	36	n.a.

Source: Company data.

savings bank had developed a practice of using occasional part-time employees – i.e. people who worked only a couple of days a month. If better data than those presented here were available for the two U.S. banks, they would most likely show that both have long used various forms of part-time employment. Even in the case of the U.S. regional bank which had introduced part-time staffing in its branches only recently, back-office managers had long relied on part-time staffing to operate.

The most dramatic recent changes appear to have taken place in both the Japanese firms and the French firms. The difference, of course, is that whereas the Japanese firms seemed to have been able to effect such change with little opposition, French firms were hindered in developing part-time employment because of the great reluctance of both older employees and managers to change work habits.

Clearly the skill transformation affecting financial firms in the five OECD countries studied here is putting enormous pressure on firms to adjust by altering their ways of recruiting, promoting, and organizing their human resources. As with other dimensions of change uncovered earlier in this study, what is remarkable is the extent to which these adjustments are at once surprisingly similar among countries, yet remain influenced by national cultures. Each of the twelve firms is demonstrating a new reliance on the external labor market, a new emphasis on hiring workers with higher formal educational preparation, and a shift from single- to multiple-entry point systems for staffing. This latter shift is being carried out more prudently by the German firms than by those from the other four countries, however. In addition, all the firms, including the German ones, appear to have grown more sophisticated in their use of part-time work arrangements to enhance their flexibility in the marketplace.

In the next chapter, we explore in more detail the qualitative dimensions of some of these adjustments, in particular as they relate to the demands put on educational systems, apprenticeship systems, and corporate training systems.

Chapter 6

ADJUSTING TO THE NEW SKILL STRUCTURE: THE ROLE OF EDUCATION, APPRENTICESHIPS AND CORPORATE TRAINING

As was suggested in the previous chapter, the ability of firms to adjust to the demands imposed by the new skill structure is bound by both the labor relations and the educational environments within which they operate. This is the case since both environments constrain what firms can do through internal and external labor markets. Regarding the educational environment in particular, the firm's capacity to adjust is partly determined by each country's traditional balance between formal education on the one hand and apprenticeship and corporate training on the other – a balance which is itself evolving.

This chapter describes in some detail the different skill-formation systems that were found to exist in the firms studied, assesses the changing locus and focus of skill formation and develops some measures of growth in human resources investment. As a concluding point to the discussion presented in this and the previous chapter, this chapter closes with a limited assessment of the impact of skill adjustment on different groups of workers.

Education, Apprenticeships and Corporate Training: Competing Systems

The twelve firms were found to offer a wide range of skill-formation systems, ranging from systems in which the majority of workers are hired by firms at relatively low levels of general education and are placed in intensive, entry-level apprenticeship programs, to systems in which most new workers are recruited at relatively high levels of general education and are placed immediately into regular jobs. In all cases, initial education and entry-level apprenticeships were usually complemented by additional corporate training, both early on after hiring and throughout the employee's tenure with the firm. This additional training could take place either on the job or in a more formal, classroom setting.

Based on this distinction, the French and German systems were found to depend the most heavily on the apprenticeship model, and the Japanese and the U.S. systems, the most heavily on the general education model. The Swedish system lay somewhere in between these two models. Such a typology is a useful first approximation only if the reader keeps in mind that the French system is moving away from its former, heavy dependency on the apprenticeship model, while the Swedish and the Japanese systems still contain apprenticeship components.

Today, skill formation in the financial service industries in Germany depends heavily on the "dual system", a system in which most employees are hired after having completed a company-based apprenticeship program. While hiring after completion of apprenticeship has become the norm for most new employees in the German financial sector, this development is largely a phenomenon of the 1980s. Earlier on, a large number of new employees were hired below apprenticeship. German firms still hire a few below apprenticeship but mostly nowadays to fill low skilled, non-bank positions such as janitors, security personnel, drivers, and so forth. Increasingly also, apprenticeship takes place after *Abitur*, that is after the completion of thirteen years of primary and secondary education. This is also largely a development of the 1980s.

Apprenticeship is jointly run by the firms, the States (*Länder*), and the Federal government, and combines both on-the-job training and classroom training. The firms provide the on-the-job training and the *Länder* the classroom training. The on-the-job portion of the apprenticeship training is regulated by the Federal government; the classroom training by the *Länder*.

During apprenticeship, youth are hired by firms under a special contract. There is no obligation for firms to hire individuals once their apprenticeship is completed. While most apprentices trained by the two banks visited were hired after completion of their program, not all were, meaning that, to a certain extent, the firms did use the program as a means of selecting and weeding out potential workers. Apprentices receive a small wage (DM 1 000 monthly) during the program at the large German bank.

Today's apprenticeship in the banking sector lasts one and a half to two and a half years for graduates of *Abitur* and three to three and a half years for those with lesser educational credentials. In the past, one day per week was devoted to classroom teaching and the rest of the week to on-the-job training. Today, classroom teaching is organized in blocks of weeks, of up to six to nine weeks at a time.

In the large German bank, apprentices received additional classroom teaching as part of the firm-specific portion of the program because the human resources managers believed that the classroom teaching provided by the *Länder* was too "academic", which they blame on the fact that the *Länder*'s teachers had no banking experience. The savings bank also provided its own classroom training two afternoons per week during the on-the-job training portion of the program. In contrast to the opinion expressed by human resources managers in the large bank, however, personnel managers in the savings bank argued that their classroom teaching was simply meant to complement what was taught by the *Länder*. While the *Länder*'s teaching emphasized basic accounting and sales techniques, the bank's classroom teaching focused on specialized banking techniques. Finally, the on-the-job training portion of the apprenticeship in both banks involved extensive job rotation.

In addition to their apprenticeship programs, the two German banks also had developed specialized programs for entry-level managers. The savings bank, for example, enrolled its junior managers in a program offered by the savings banks' Federal Academy. Upon passing an entry exam, employees with a minimum of two years of experience at the bank were enrolled in an eleven- month program held in Bonn, during which they received six to eight weeks of full-time, classroom training.

As a preamble to a presentation of the French apprenticeship system, it must be pointed out that understanding how that system works is far more relevant to understanding the educational and training preparation of older rather than that of younger employees. Under conditions of limited new hiring, most French financial firms now hire new employees with at

least a two-year college education (*Institut Universitaire de Technologie* or above), that is, levels well above the assumed level of the old apprenticeship system. In so doing, they contribute to the obsolescence of a system which they increasingly perceive as having been largely unable to adapt to change.

Originally the French banking and insurance apprenticeship systems were somewhat unique for France because they were organized by and operated through training institutes controlled by the firms themselves, rather than by the Ministry of Education and through the vocational high schools as was the case in other sectors of the economy. Also, in contrast to Germany, young bank and insurance employees in France used to be enrolled in the apprenticeship program having already been hired permanently. Indeed most never even completed a modicum of apprenticeship.

Designed to pick up young employees before the completion of high school, the first level of the apprenticeship program (CAP or Certificate of Professional Aptitude) ran over a one-year period and involved half a day per week of classroom teaching. The second level, presumably the functional equivalent of a high school education once completed, required three years of classroom study at the rate of 200 hours of teaching per year. Classes were taught both by full-time teachers and by bankers or insurers. In the grand tradition of French education, the two levels of the apprenticeship program ended with graduation exams, historically characterized by high rates of failures.

One explanation often offered for these high rates of failure was that the classroom teaching organized by the institutes tended to be too academic and too unrelated to the employees' day-to-day work experience. But then the same bank or insurance managers who criticized the programs were largely responsible for their content, since the two industries organized them.

In the face of recent evolutions, however, this apprenticeship system has been increasingly sidelined as banks and insurance companies have begun recruiting directly at higher levels of educational attainment and making up for existing deficiencies by vastly enlarged in-house training programs. The French regional bank, for example, is attempting to deploy a decentralized training strategy whereby the central human resources division will be responsible primarily for developing the bank's overall training strategy as well as some of training tools and modules. Operating managers will carry out the training themselves or ensure that training takes place at the departmental level. Since the mid-1980s, as part of its effort to develop new tools and training modules, the human resources division has been working with other French banks to develop computer-assisted training software to be used directly on PCs in the branches and with outside training institutes and consultants to develop new courses.

The large French bank differs from the regional bank and other French banks as well in that it decided long ago to operate its own in-house first-level and second-level apprenticeship programs for its own employees rather than enrolling them in the industry-run programs. As a result, the bank feels that its own programs evolved better over the years than those run by the industry, which is why it relied on them extensively until recently. In recent years, however, the role of the bank's centralized institute as a primary training center for apprentices has declined, and increasingly its mission has shifted from direct training to developing curricula and teaching aids to be used at the local level for ongoing employee training.

The U.S. and the Japanese Skill Formation Systems

In contrast to Germany and France, entry-level training is far less formal in U.S. and Japanese banks, since the formal educational system in both countries has long assumed

greater responsibility in the initial preparation of new workers. This is not to say that there are no provisions for initial training for new hires.

In the U.S. regional bank, for example, new tellers – both part-timers and full-timers – are enrolled in a five-week, full-time training program. The first three weeks are conducted in a centralized location in a simulated branch environment; the following two weeks, in a real branch environment, with new recruits working under the supervision of an assistant head teller.

In other areas of the bank, training is partly centralized and partly decentralized at the departmental level. Large departments have training units with their own full-time instructors. Most trainers come from line positions in the bank, and remain employed as such for only a few years. In addition to these decentralized units, there is a central unit within the bank's human resources division to develop curricula and training modules for particular job positions. Some of the training modules are developed in-house, others, by outside consultants.

Further up the ladder, the bank focuses on training for management trainees, middle-level managers, senior managers, and executives. The management trainee program enrolls about 15 individuals per year, about two-thirds picked in-house and one-third recruited from local colleges. Almost all have a four-year college education. The program lasts two years. The first year involves extensive classroom training and rotating short-term work assignments in various technical departments of the bank. During the second year, management trainees are placed in a supervised work environment. After two years, about two-thirds of the new trainees are placed in the wholesale banking group, in areas such as loan or credit analysis, and one-third in the consumer banking group.

The second program focuses on middle managers. It involves mainly *ad hoc* training through modular courses organized by the departments themselves. In addition, the bank encourages its managers to register for courses at local universities and graduate schools.

The third program, for senior managers, emphasizes management skills rather than bank-related skills. The program is organized by the human resources division and is based primarily on course modules bought from outside vendors.

Lastly, at the executive echelons, the bank pays for executives to enroll in the Executive Management Programs offered by some of the country's prestigious business schools.

In the North American consumer banking group of the U.S. multinational bank, training once fell under the responsibility of three autonomous departments, all centralized. The first department was in charge of teller training for the branches; the second, new product training; and the third, training for supervisors and managers, focusing on personnel relations, affirmative action, and related areas. Approximately ten years ago, in keeping with the bank's overall decentralization policy described earlier, training was moved to the business unit level and the old centralized training organization was dismantled.

In the new decentralized system, training has tended to evolve toward two main clusters: one that emphasizes new behavior, in particular sales skills, customer assistance skills, and new managerial skills, and another that emphasizes functional skills, i.e. knowledge of products, operations, and systems.

At the junior management level, the consumer banking group runs a management associate program with approximately 100 to 150 trainees each year. The program, open almost exclusively to individuals with a minimum of a four-year college degree, lasts for 18 months after which trainees are placed in officer positions. While the bank will encourage consumer service representatives (CSRs) or tellers to acquire a college-level diploma and will even reimburse tuition that falls under the scope of the bank's tuition reimbursement program, less and less will it recruit into its managerial ranks individuals lacking college

education. During the 18 months, management trainees are rotated through various areas of the consumer banking group, including branch platforms and consumer banking back-offices such as the credit department, mortgage, tax shelter, and so forth. Thereafter, trainees are placed in junior officer positions, for example as assistant branch managers, where they work as mortgage specialists or as credit officers in the consumer credit department.

In its wholesale commercial and investment banking groups, the bank follows the same strategy of decentralized training. In wholesale commercial banking, for example, the bank has one of the industry's best loan officer training programs which today is open only to individuals with an MBA or equivalent. The program comprises 18 months' worth of intensive classroom training plus on-the-job training under supervision.

Training in the Japanese banks is quite similar to that found in U.S. banks. Bank clerks in both the branches and the back-offices (mostly women), are trained principally on the job under the supervision of an experienced worker. Additionally the banks offer a modicum of classroom training, mostly aimed at teaching the basics of the job and indoctrinating new workers in each firm's way of doing business. In the Japanese city bank, for example, the introductory course lasts ten days and focuses heavily on job skills such as counting money, using calculators, cash registers and other business machines, and basic behavioral skills such as greeting and assisting customers.

Overall, however, the major preoccupation of the human resources managers is the training of junior and senior managers. As one human resources manager in the Japanese city bank put it, the bank's training policy for managers emphasizes self-development, off-the-job training, and on-the-job training.

Self-development means that young employees recruited into the management track (all men) are encouraged to enroll in correspondence courses, typically those offered by the Japanese Bankers Association. The bank provides some tuition reimbursement. In the Japanese international bank, which also provides tuition assistance, tuition reimbursement is subject to the employee passing the final exam of the course.

Off-the-job training refers to courses and workshops organized by the bank. In contrast to the courses offered by the Japanese Bankers Association which emphasize self-development, off-the-job classroom training is usually related to specific job changes and begins when new employees are first hired. Upon recruitment, new hires are enrolled in a one-month training course focusing on the basics of banking, the bank's computer systems, teamwork, basic skills (counting money, etc.), and a lecture by the bank's president.

On-the-job training is based on three principles:

1. Management by objective. Every so often a plan of action is developed for each individual and an evaluation is conducted by supervisors once the plan is completed.
2. Competition. Twice a year, the bank organizes competition among young employees to check on their skills in areas such as use of the abacus, handwriting[1] and use of business machines.
3. Job rotation. Young employees are systematically rotated through assignments in various departments. In most cases, the new assignment is accompanied by classroom training (one week in loans, four days in international business, etc.).

Further up the ladder, Japanese banks are also preoccupied with training middle and senior management. Since Japan lacks good business schools, Japanese financial firms rely on a variety of programs to train a cadre of middle-level managers.

First, the two banks and the insurance company each send abroad every year a number of their young managers to enroll in MBA programs, primarily in the United States. The firms

pay tuition and salaries for the usual two-year duration of such programs. The city bank sends nearly 30 managers each year to U.S. business schools; the international bank and the insurance company a somewhat smaller number. Additionally, each year the Japanese insurance company sends a large number of young managers abroad for short-term assignments (typically two months) during which employees are expected to improve their English and enroll in courses at local universities in the aim of fulfilling a personal developmental goal. These short-term assignments are financed by fellowships for which employees must compete. Finally, the three firms use rotating foreign job assignments for young managers as part of the training process. The Japanese city bank sends abroad each year 20 young managers for assignments lasting between six months and two years. The international bank, which has its own large network of foreign subsidiaries, makes even greater use of rotating foreign assignments. The insurance company, which has a limited foreign presence, uses exchange programs with foreign firms to train young managers abroad and develop its network of business relationships.

The Swedish Firms

In the Swedish insurance company, entry-level training resembles the apprenticeship system. New hires are placed in a three-year apprenticeship program that is run by the firm itself but is sanctioned by the industry. After three years, the employees must pass an examination given by the industry before gaining certification.

The insurance company recruits roughly 60 new trainees per year, including 20 for district manager positions, 20 for claims adjustment positions, and 20 for customer service representative positions. Most of the training is on the job, under supervision. For district manager trainees, job rotation is complemented by a total of 22 to 24 weeks of classroom training over the three years; for claim adjustors and customer service repesentative trainees, by 14 weeks of classroom training. Currently, classroom training is distinct for the three occupations, but the firm is developing a six-week curriculum common to all three positions, that would be consistent with the trend toward merging, or at least increasing, the overlap of responsibilities among the three jobs.

Training in the Swedish bank is organized by each of the bank's four major groups. There is no central training organization except for a corporate level unit that coordinates and exchanges training programs among the four groups. Until recently, training was organized around a single track system. While many young new hires continue to be prepared through that system, the system is changing quite rapidly.

First, the bank is shifting to a system whereby teller positions will be staffed essentially as dead-end, part-time positions. The training of new tellers has been reduced to three weeks, involving classroom training in a simulated branch environment and on-the-job training in a regular branch under the supervision of a senior teller.

Second, the original single-track system is being altered to accommodate a slow track (mostly for high school graduates) and a fast track (mostly for college graduates). Both tracks prepare bank clerks except that in the latter clerks are expected to move into junior management positions faster than in the former. At the group level, the bank now recruits approximately 70 percent in the slow track and 30 percent in the fast track. When hired, each new employee is placed in a three-day introductory course focused on the company with presentations from the CEO and senior executives. Thereafter, one-week classroom teaching sequences are staggered with supervised work experiences (one to two months). Formal apprenticeship goes on for a year before the new employee is certified. Thereafter, training is related to job changes.

Third, in addition to hiring through the regular track, the bank has begun to hire specialists directly from universities or from the external labor market. We mentioned earlier the example of traders; this has also been the case for computer specialists.

Middle managers are trained in part through programs offered by an industry-operated training institute. In addition, the bank recently opened its own institute which it uses to train a second group of middle managers with demonstrated talents to become strong senior managers and executives. As of 1986 two classes had graduated from the institute. The institute serves the bank's four major groups.

Approximately 25 people are recruited for each class. Half are branch managers; the other half head production departments. Half already have a college education; the other half have come up through the rank and file. Individually tailored remedial programs in economics and English are organized prior to the start of the program to bring those who may need it up to a minimum academic level.

The emphasis of the middle management program is on developing three areas of competencies: interpersonal skills (personnel management and communications skills), political skills (understanding the market and its actors), and professional skills (understanding product and client relationships). The institute does not have a training staff but relies on outside people. The program is spread over a nine-month period including two eight-week periods of full-time classroom training. The institute director equates the program to the equivalent of one and a half to two years of U.S. university training. The objective of the program is to develop individuals with high levels of management skills while keeping the program directly connected to the bank's strategic needs.

Skill Formation: Changing Contents and Changing Modes of Preparation

This lengthy description of skill-formation structures as they exist in the various firms in the five countries might lead one to believe that the systems are so fundamentally different that they are not comparable. But as has already been noted in the previous chapter, this is not the case. Thus, even though the French and especially the German firm-based training systems may have achieved in the past (and may still be preserving) a degree of formality unlike that found elsewhere, their long-term evolution is nevertheless strikingly similar in some respects to that of the other three countries. Specifically, common to the five countries is the evolution away from the old employment model in which firms hired most of their workers at relatively low levels of educational attainment and then placed them in apprenticeships to develop both additional scholastic skills and firm-specific skills. Today, firms everywhere are emphasizing the hiring of workers at much higher levels of formal educational preparation and are attempting to refocus much of firm-based training on those skills which are primarily specific to the firm. As always in a transitional period, reality is a blending of old and new approaches to account for the lagging capacity of the formal educational system to produce workers with the new required levels of education and to account for the level of education and skill preparation of the labor force already employed. The result, nevertheless, is what we have called elsewhere a splintering of the skill formation process between the formal educational system and firm based training[2].

The Role of the Educational System

In terms of formal educational preparation, as we have observed throughout this and the previous chapter, there is an unmistakable rise in hiring requirements. Increasingly, minimum educational attainment is at a two-year college level (two years after completion of secondary

education), or equivalent, for middle-tier workers and at a four-year college level for upper-tier workers. Germany and Sweden may continue to keep entry-level requirements somewhat lower for the new "middle-tier" workers, but, in the case of Germany at least, little hiring takes place nowadays until the apprenticeship is completed and few enter apprenticeship unless they have graduated from *Abitur*. Clearly, these represent a major rise in the educational attainment of employees compared to a decade ago.

Only among bank branch tellers – an ever smaller proportion of the employment of most large banks – did we find that hiring requirements may remain relatively low, although this depends largely on whether tellers' jobs remain relatively simple and disconnected from other jobs in the organization (e.g., the U.S. and Swedish banks), or rather are restructured into a new sales/customer assistance job (e.g., the French banks). In the latter case, educational requirements are likely to be similar to those that are being demanded from other middle-tier workers.

In terms of the new middle-tier workers, the new skill requirements seem to place a premium on "liberal arts" education (to use the Anglo-Saxon terminology) at the secondary and even early post high school level, that is on curricula which emphasize the teaching of broad skills rather than specialized, vocational knowledge: reading, writing, arithmetic, both verbal and written communication, the capacity to understand broad rather than specialized environments, and to identify problems and define solutions for oneself rather than memorise ready-made solutions to pre-assigned problems. As one bank official put it: "The bank can train anyone in becoming proficient in the use of specific techniques and procedures; the bank cannot train individual workers in thinking for themselves, in being at ease with broad and complex environments."

This new emphasis on liberal arts preparation seems to favor the secondary and post high school educational systems of Japan and the United States over those of Germany and France, which place greater emphasis on vocational preparation at an early stage. Of course, this is not to ignore the problems associated with the uneven quality of such educational preparation, at least among some high school graduates. Some of these problems were discussed openly by employers and experts in the United States or even in Sweden, even though we suspect that these were not the only two countries where such problems exist.

Among the five countries, France may be the most out of step with the demands of the new labor market. On the one hand, its high school system remains exclusionary and selective rather than encompassing and inclusive, and often fails to educate a large proportion of its youth at a minimum of a complete high school education. On the other hand, emphasis on early vocational specialization for large numbers of youth contradicts the nature of labor demand as observed in the financial sector. However, today's main problem in the French financial sector may be not so much with new hires, who are very few in number, as with the large number of employees who were recruited in the late 1960s and early 1970s at low levels of educational preparation and who are finding it difficult to adapt.

In contrast to the French case, the apprenticeship system as we saw in the two German banks would seem to have adjusted quite well to some of the new demands put on it, especially to the need for recruiting and preparing individuals with higher levels of both formal educational preparation and on-the-job training than in the past. This statement is not meant to imply a global assessment of that system which, according to some of our interviewees, remains uneven because of major differences in the quality of apprenticeship offered by large and small firms.

At the professional and managerial levels, and somewhat in contrast to the trends observed among the new clerical workers, financial firms are clearly under growing pressure to find a new crop of employees with higher levels of specialized preparation than in the past.

Here the needs seem increasingly focused on individuals trained at the fifth or sixth year after secondary education, be they graduates of professional schools or doctoral programs in the United States, "Grandes Ecoles" and DES programs in France, and so forth. Typically these programs are seen as offering both expanded preparation in conceptual thinking and some degree of high-level technical competency in specialized areas such as computer science, law, finance, accounting, marketing, and so forth. How much of the specialized training can be acquired in a formal academic environment and how much must be learned on the job remains somewhat at issue but is further discussed below.

France and the United States appear to have a slight advantage over the other three countries because of their long-standing tradition of preparing individuals at such high levels of education. In comparison, firms in the other three countries often seem forced to spend considerable in-house resources on the preparation of their middle managers and junior executives in part to make up for a somewhat less efficient academic system or one that is less connected to the private sector labor market.

The Role of Corporate Training

The greater emphasis on stronger and expanded formal educational preparation does not mean a decline in the role of corporate training. On the contrary, the importance of corporate training is clearly on the rise. However, the splintering of the skill formation process between formal education and corporate training noted earlier is both forcing and helping companies to rethink the nature of workplace training. In particular, the focus of corporate training is shifting increasingly to four major areas of skills:

- *New behaviors*. Firms are giving new attention to the development of new role models and new behavior, especially those that relate to internalizing the firm's strategic goals, to assisting customers and to selling. The emphasis here is on developing communication, interaction and conflict resolution skills, that can help workers internalize the mission of their new jobs, interact with others and in particular convey the essence of the firm's strategic image and objectives.
- *Product and market knowledge*. As products and markets multiply, firms must pay growing attention to developing the technical skills associated with knowledge of products, markets, and problem solving techniques.
- *New expertise*. Firms are becoming increasingly concerned with assisting in the continuous development of high-level expertise in a cadre of high-level professionals and managers involved in the development of new products and new business relationships in areas where the very complexity of the service offerings demands that it be delivered by a highly specialized professional (e.g., swaps, trading, etc.).
- *New entrepreneurship*. Firms need to devote growing attention to the development of a new cadre of operating managers who can run business units as entrepreneurs rather than as order takers (from senior executives), that can set strategic objectives for their unit, and that can put together new styles of personnel management that take into account the better level of employee preparation and the greater degree of responsibility given to them in response to the overall skill transformation of the firm.

In general, firms seem to recognise that there is a fine balance in how much of this firm-based training must take place truly on the job and how much can be done somewhat removed from the work site. This is so because, to some extent, there are both pull and push forces operating at the same time.

To the extent that firms must develop and reinforce the capacity of employees to think in terms of ever expanding market environments and time horizons, there may be a need to train workers somewhat removed from their work site. This may be the case, for example, in the training of junior managers in which a principal objective of the firm is to educate those employees about markets and market relationships, in other words in getting them to think in broader terms than those of their daily work environment. As we have shown earlier, typically such training will tend to be done in the context of special seminars or even by registering employees in university-based courses. This also suggests that the distinction between workplace-based training and formal academic training is becoming even more elusive.

To the extent that firms need to train employees in the knowledge of new products and new customer relationships, an emphasis on on-the-job training may be particularly called for since in the service sector product knowledge involves in no small part "behavioral knowledge," i.e. knowledge about how to relate to customers.

In effect, we found that within certain limits all firms had already taken steps to accommodate the growing need for behavioral and product training. In this respect, it is worth noting that in the short run at least, countries such as Germany and Japan with a stronger tradition of emphasizing quality may have an edge in fostering the development of the new customer assistance and sales skills.

The two areas of skills discussed thus far – new behaviors and product knowledge – address primarily, although not exclusively, the needs of the new clerical labor force. In the long run however, as the balance of skills continues to shift toward managers and professionals, firms must become increasingly concerned with developing the skills associated with the need for *new entrepreneurship* and *new expertise*. Yet it is there that firms are probably facing the most difficult training challenge. In the next chapter, we return to this issue. We suggest that this may be at least as much an organizational as a training issue, involving both the extent to which firms are able to decentralize so as to create the proper environment for new entrepreneurship to blossom and to change their rapport to the external labor market and to higher educational institutions.

Some readers may be surprised by our lack of mention of the problems associated with training in the use of new technologies. This simply reflects our repeated observation throughout the study that most firms regard such training as quite trivial when compared with other training needs. In the long run, also, it is widely assumed that the new generation of workers will graduate from high school and college proficient in the use of the new tool.

Far less obvious is the extent to which non-English speaking countries can succeed in teaching the English language to a new generation of workers. Increasingly, this is seen as a *sine qua non* to doing business in an international economy, especially in Europe where, say, even small bank branches in relatively remote locations may need to transact business with foreign visitors and businessmen. Here one can only admire the Swedes' enormous success in promoting a widespread working knowledge of English at the high school level.

Measuring the Cost of the Human Resources Investment

The analysis presented in this chapter suggests a number of questions concerning the evolution of the cost of skill formation: *i)* how fast is the cost of skill formation growing; *ii)* who is bearing such cost; and *iii)* how extensive is the shift in the cost borne by the educational sector and that shouldered by the firm?

Thus far, none of the five countries have the kind of macro and micro data necessary to measure the cost of skill formation, even though the three European countries collect some

information geared at measuring some of the training costs borne by firms. France has probably the most elaborate data-collection system in place, formalized in the yearly "Social Report" (*Bilan Social*) that firms must file along with their annual Financial Reports. Still, the French "Social Reports" demonstrate that while it is relatively easy to cost the price of formal, classroom-based training and apprenticeship programs, it is nearly impossible to impute a value for the human capital investment obtained by firms from either general education or even more so from informal on-the-job training.

In the end, one must largely rely on logical inferences to develop an answer to the questions raised above. On this basis alone, one can confidently argue, first, that there has been a sharp rise in the amount of human resource investment consumed by financial firms in the five countries studied, and second, that this rise has come about through both growth in the investment borne by the educational system and growth in the investment made by firms.

This is the case for the following reasons. Entry-level educational attainment has risen everywhere, including in the two countries – France and Germany – that continue to rely more extensively on formal entry-level, firm-based apprenticeship systems. Next, the twelve firms have increased their employment of individuals educated at the four-year college or post-college level. In addition, available data on training expenditures by firms in both France and Germany suggest continued growth in the firms' own outlays. Aggregate data for training outlays in the French banking and insurance sectors obtained from Social Reports suggest continuing growth throughout the period 1976-1983 notwithstanding the parallel rise in educational requirements. Measured as a share of the total wage bill of firms for the period 1976-1983, the costs of training rose from:

- 3.1 percent to 3.4 percent in the French commercial banks;
- 1.9 percent to 2.9 percent in the French insurance companies;
- 1.6 percent to 2.1 percent for the entire French economy.

These costs include both the training costs per se (i.e. the costs of trainers and training materials) and the opportunity costs of training (i.e. employees' wages and salaries while being trained – roughly 45 to 50 percent of the costs). As mentioned earlier, these estimates capture only formal, classroom training, not the costs of on-the-job training.

More specifically, the regional district of the large French bank reported a growth in its training costs from 3.9 to 4.4 percent between 1983 and 1985 and a growth in the number of classroom hours taught from 30 000 to 47 300 during the same period. Likewise, the French regional bank reported growth in its training costs from 4.4 percent to 4.8 percent of its wage bill between 1982 and 1984, corresponding to a rise in the number of individual classroom hours taught from 356 000 to 410 000. In the French insurance company, the level of expenditures remained stable between 1982 and 1984, around 4.6 percent of the total wage bill.

Using the number of trained apprentices as one index of a firm's growing investment in human resources, a similar trend could be observed in the German firms. In the large German bank, for example, the number of enrolled apprentices grew from 1 400 to nearly 2 100 between 1975 and 1985, a whopping 50 percent increase, much larger than the 23 percent increase in the firm's total employment during that same period. Likewise in the German savings bank, the average annual number of apprentices grew from 138 to 151 between 1980/81 and 1984/85, a near 10 percent increase while total employment increased only by 2 percent.

As for the other three countries, while the *ad hoc* or on-the-job nature of most of their training made measurement difficult, we can safely guess that, there too, investment increased. In addition, in Sweden, corporate training was strengthened by the 1979 legislation

Table 6.1. ESTIMATE OF TRAINING COSTS FOR JAPANESE INSURANCE COMPANY IN 1985

In millions of yen

Type of new recruits	No. of annual recruits	Nature of training	Approximate wage cost (million Y)
Office clerks – all women	337	3 months on-the-job training under supervision; no classroom	300
Management trainees – all men	180	1 year on-the-job training under supervision; 2 weeks classroom	525
Overseas program – all men	30	15 men per year sent to 2-year graduate school programs (MBA and others), primarily in the United States	200[1]
Overseas program – all men	50	1 month per year overseas	35
Sales force – all women	30 000	6 months on the job under supervision; first month full-time classroom; 2nd to 6th month, 2 hours/day classroom; 7th to 12th month, 2 hours/week classroom.	26 000
		Cost of wages	27 060
		Cost of courses (cost of trainees and training materials)	500
		Total	27 560

1. University tuition plus stipend for living expenses.
Source: Authors' estimate based on partial company data.

instituting the "Renewal Fund." Under this law, each firm must set aside a minimum 10 percent of its gross profits to finance investment projects. Projects must be agreed upon jointly by the firm and the unions. The money can be used to finance investments in both hardware and software, but most of the money goes to training and retraining. There is a heavy penalty for unused portions of the money.

In one instance in which we were provided with some data, that of the Japanese insurance company, we attempted to estimate the firm's training costs, taking into account the costs of trainers, of training materials necessary for classroom instruction, and of wage and salaries of employees while being trained both in the classroom or on the job under supervision. Our estimate, shown in Table 6.1, indicates that training costs were about 4 percent of all wage and salaries expenditures, very much in the range of those reported by the French firms. Note in Table 6.1 the formidable training cost of sales agents. This is explained by the fact that in selling individual life, the firms use a vast network of women sales agents, which is characterized by enormous annual turnover – nearly 40 percent. The result is that the firm must hire and train a whopping 30 000 new saleswomen each year.

The Impact of Adjustment on Special Groups of Workers

In view of the findings presented in this and the previous chapter, one might be tempted to ask some questions regarding the extent to which the impact of the adjustments underway in the twelve firms has differed among groups of workers. In particular, one might want to know which groups have fared best and which ones worst.

As has been noted throughout the book, broadly speaking the transformation has tended to favor workers in the higher echelons of the occupational hierarchy and to work against those in the lower echelons. An intriguing question is whether the transformation has worked against or in favor of women.

Table 6.2 summarizes the evolution of the employment of men and women as a share of the total and part-time workforces of eight of the companies during the 1975-1985 period. The table shows that the share of women to men tended to be very stable in the German and French firms, to increase in the Swedish firms, but to decrease in both the Japanese insurance company and the Japanese international bank. Indeed, in both cases women bore the brunt of retrenchment in the full-time labor force. In both firms, the number of full-time women decreased while the number of full-time men continued to increase. Furthermore, women's losses in full-time employment were not compensated by equivalent gains in part-time employment.

Table 6.2. RATIO OF MEN TO WOMEN
Full-time and part-time employees

	1985				1975			
	Men		Women		Men		Women	
	Number	%	Number	%	Number	%	Number	%
Japanese insurance company								
– Full-time only, excluding sales force	4 982	36.4	8 762	63.6	3 874	28.0	9 952	72.0
Japanese international bank								
– Full-time only (Japanese operations only)	3 271	59.5	2 223	40.5	3 054	49.3	3 143	50.7
German savings bank								
– Part-time and full-time[1]	509	43.1	673	56.9	505	43.2	663	56.8
– Part-time only	65	18.3	290	81.7	103	26.2	290	73.4
Swedish insurance company								
– Part-time and full-time, excluding sales force	1 616	53.1	1 427	46.9				
– Part-time only	28	7.7	335	92.3				
Swedish bank	3 519	44.4	4 412	55.6	3 666	50.4	3 613	49.6
French regional bank[2]	5 626	54.8	4 642	45.2	5 639	54.8	4 656	45.2
Large French bank[3]								
– Part-time and full-time (Regional district only)	525	57.5	389	43.5	531	57.0	401	43.0
– Part-time only	4	16.0	21	84.0	10	34.5	19	63.5
French insurance company[4]								
– Part-time and full-time, excluding sales force	2 522	22.9	5 143	67.1	2 534	22.6	5 231	67.4
– Part-time and full-time, sales force only	3 713	76.5	1 107	21.5	4 063	77.8	1 159	22.2

1. Data are for 1985 and 1980 respectively.
2. Data are for 1984 and 1982 respectively.
3. Data are for 1985 and 1983 respectively.
4. Data are for 1984 and 1982 respectively.

Source: Company data.

Obviously, such findings cannot be divorced from each country's present and past employment practices and its record in enforcing equal employment opportunities. Relatively speaking, the U.S. and Swedish firms seemed to stand out in terms of their consistent efforts at promoting women into the higher echelons of their occupational hierarchy; German and French firms to be characterized by a somewhat more mixed record; and the Japanese firms to be lagging but changing rapidly.

In the United States, the share of white women employed in financial industries has increased markedly while that of white men, minority men and minority women have declined, although in all three cases for rather different reasons[3]. White women have benefited widely from the opening of professional and managerial jobs brought about in part by equal employment opportunity, at a time when traditional clerical employment opportunities were shrinking. This has been so in part because the postwar "baby boom" generation of white women used colleges and universities extensively to earn entry into those positions. Today, white women's enrollment in U.S. colleges and universities is higher than that of white men. Minority women and minority men, on the other hand, have not matched the gains of white women, partly because of their lesser success in acceding to university education, now a prerequisite for entry into professional and managerial positions. As for white men, their declining employment share in the financial services simply reflects the flip side of the impact of the preferential hiring of women during the 1970s and 1980s.

Such shifts could be observed variously in the two U.S. banks. In the U.S. regional bank, for example, 10 percent of the vice presidents and half of the branch managers were women. Among recent assignments for branch managers, two-thirds were women.

In Sweden, the other country which now enforces equal employment opportunities laws extensively, women also appeared to have benefited markedly from the opening of new employment opportunities in professional and managerial ranks at a time when clerical jobs were growing at a slower pace, if not shrinking.

In the Swedish bank, for example, there was clear evidence of sizable numbers of women having moved into middle management positions. In addition, women were beginning to move into senior management positions, the result of a special program instituted by the bank more than ten years ago. For example, more than half of the assistant branch managers were women and in the stock trading departments which we visited approximately one-third of the account officers were women. In the Human Resources department there were a number of women in senior positions.

Our interviews in the French and German firms suggested a somewhat lesser improvement in women's participation in professional and managerial positions, yet a changing attitude on the part of employers.

In the French insurance company, women represented 75 percent of the clerical and technical employees and 25 percent of the professional and managerial ranks. In the French regional bank, women represented 54 percent of the clerical and technical personnel and 15 percent of the professional and managerial employees. The two firms, however, were attempting to promote women into professional and managerial ranks faster than men. In the large German bank, there was also evidence that the firm had begun moving women into middle management positions – witness, for example, the large proportion of women in branch assistant manager positions and a few women in branch manager positions. There were still no women in senior management positions, however.

In contrast, in Japan we found close to no evidence of women employed in professional or managerial positions in the three firms that we studied, at least when we visited them in the spring of 1986. Up until recently, most women continued to be channeled into dead-end clerical job tracks, while most men were hired into management trainee career tracks. Such

practices – in no way unique to the Japanese financial sector – were reinforced by a pattern of early retirement among young women whereby women temporarily retired from the labor force during childbearing and childrearing years to reenter in their early forties, often as employees of the same firm. As one Japanese official put it to us, "Several times the courts have ruled it unlawful to force young women out of the labor force because of marriage or childbirth. But the real issue is the 'atmosphere' in many firms that take for granted that women should resign at marriage or childbirth."

The atmosphere of discrimination against women had become so ingrained that at first, when Japan introduced an equal employment opportunity administrative decree in March 1986 (the last of the developed countries to do so), some of the banks rushed to formalize their career track system in a way that would preserve divisions among sexes. This was done by distinguishing between a short track (clerical track) and a long track (management training track) and by making it a prerequisite for workers in the long track to be willing to relocate to another city or another country. Under the Japanese social system in which family institutions remain strong and traditional, such a provision reexcluded *de facto* women from entering the management trainee track.

Nevertheless, in the spring of 1986, a Japanese observer of Japanese financial industries already pointed out that, in the long run, Japanese firms would have to make true changes rather than circumvent the issue. Indeed, by early 1987, there already was evidence that two of the three firms that we had visited a year earlier had taken steps to make changes. This is not surprising, since, in the end, of course, Japanese firms are finding themselves confronted by the same set of pressures as those met by others in other countries. They are finding that discriminating against women may often work against their own best interests in that it constrains arbitrarily the size of the pool of labor available for certain positions. In addition, they are finding it increasingly necessary to be responsive to the rising tide of the new generation of college-educated women less and less content with the roles in which their elders were once confined.

A final issue relating to differentiated impacts of changes on workers, which was left unanswered in this chapter but was suggested by our analysis is the extent to which the shift from a single-entry point to multiple-entry point hiring structures, the rising importance of part-time employment and yet other forces at work are altering the quality of employees' attachment to the firm in still other differential ways. We turn to this issue in the next and final chapter because it raises perhaps one of the most fundamental policy issues suggested by our study.

NOTES

1. Until the recent introduction of PC-based word processing, most business documents in Japan were written by hand. The complexity of Japanese characters had confined typewriting to a highly-specialized typesetting craft on complicated machines used only in the preparation of published documents.
2. See note 3 to Chapter 1.
3. This discussion is drawn from Thierry Noyelle, *Beyond Industrial Dualism*, Boulder, Colorado: Westview Press, 1987, especially Chapters 5 and 6.

Chapter 7

HUMAN RESOURCES AND CORPORATE STRATEGY

Organizing for Growth

As we argued in introducing this book, in a context of rapidly changing and increasingly competitive markets for financial services, technological change, productivity increases, and levels of employment have become related in ways that may be difficult to ascertain meaningfully at the aggregate level. This is partly so because the quality of human resources in individual organizations becomes an important factor in explaining why some firms or groups of firms are more successful than others in reorganizing in order to capitalize on new growth opportunities. Furthermore, once the productivity equation has been reformulated in such a qualitative way, it becomes less clear than some observers would have us believe that financial service industries as a whole are characterized by massive overemployment worldwide. Thus, even despite the case of the French and Japanese financial firms on which we reported in this book, the claim of substantial excess employment in the financial sectors of these two countries must be viewed with great caution. What may be contemplated in both cases is no more than overemployment in lower-level clerical ranks accompanied by unfulfilled opportunities for growth in new product areas, in new front line positions, and in new managerial and upper-level professional positions.

In this respect, the Japanese and the French consumer financial service markets appear less developed than those of the U.S. or even some other European markets, on both the asset and the liability sides and would seem to present enormous opportunities for continued growth. In both Japan and France, interest paid out on consumer deposits is still quite low, while the market for consumer lending products remains underdeveloped. And in France, most commercial banks have yet to develop a strong presence in some of the new wholesale markets by aggressively developing new investment banking products.

In the end, two intriguing questions are raised by our study: how do firms organize for new growth; and why are some more successful than others in doing so. Based on what we learned in the course of our interviews, we would venture to answer that the successful firm is that which recognizes that the human resource question is a key corporate strategic issue, not simply an outcome of corporate strategic decisions. In other words, the successful firm recognizes that no strategic planning effort can yield a workable agenda unless it can factor in the attributes of its existing human resources, its needs for the future, and the adjustment mechanisms available to it through both the labor market and the skill formation process. Hence, mapping and implementing a successful corporate strategy assume that the firm be able to both reconceptualize and reorganize its management and upgrading of its labor force. In the following paragraphs, we summarize a few of the key lessons suggested by this study.

The Firm's Changing Relationship to the Labor Market: A New Paradigm of Mobility

Historically, large banks, insurance companies, and, for that matter, many other service firms developed by imitating the manufacturing model. In terms of human resources, the model implied putting together divisions of labor and decision-making structures that sought to perfect the *production* of services. Typically, financial organizations were assembled around highly segmented divisions of labor, strong top-down chains of command and chains of mobility, and a primacy of production functions over sales, development, and other areas.

This research has shown that market and technological trends underway are challenging the very foundations of this model in several ways. At the minimum, firms must become increasingly market-driven, requiring that product *distribution* and product *development* take precedence over production. One result, as we have seen, is a new pull toward a widespread decentralization of decision-making responsibilities, often in considerable tension with earlier structures of organizational power.

Furthermore, by transforming production processes, the new technology reinforces the shift to sales and product development, if only by simply decreasing the amount of human resources needed in production. But perhaps more importantly, the new technology weakens the old structure of career mobility by undermining the very foundation of many of the tasks and functions upon which traditional divisions of labor and decision-making were based.

Among middle-tier workers, the tendency is for ever larger proportions of such workers to be placed in front line positions, where they deal with customers. Increasingly, mobility means moving from one front line position to another entailing, hopefully, greater responsibilities. For many, however, greater responsibilities may be measured less and less in terms of the number of supervised workers, and more and more in terms of the portfolio size or the technical complexity of the deals handled. Larger lending limits for bank branch managers, bigger adjudication limits for insurance employees, more customers with more complex financial needs for bank platform employees become some of the new yardsticks of worker advancement.

Among upper-tier workers, trends may be heading in a similar direction at least for a growing class of specialized professionals for whom mobility may be increasingly profession-driven rather than firm-driven. For such individuals, mobility and success may have little to do with one's capacity to move up the corporate ladder, and much more with one's capacity to learn new skills and gain new expertise often by handling newer and more complex problems, be it with the same employer or by changing employers.

The above observations suggest that the complex set of transformations underway described in this book is pushing firms toward a fundamental reassessment of their relationship to the marketplace as a supplier of both materials and labor inputs. Two key concepts have emerged recently to explain the new relationships with the marketplace: "vertical disintegration" and "contingent labor"[1]. Vertical disintegration, which in actuality can be either vertical or horizontal, refers to the need for firms to return transactions formerly carried out within the firm to the marketplace, involving transactions related to service, goods, or even labor inputs[2]. To a very large extent, vertical disintegration is a by-product of the revival of competition in that firms find it increasingly difficult to shelter less-than-market-efficient transactions behind monopoly rents. When applied to the purchase of material inputs, the trend toward vertical disintegration is revealed in the growth of out-sourcing and contracting-out practices.

We found evidence of this trend in every one of the firms visited, not only in areas of low-level services such as security services, transport of funds, janitorial services, and restaurant and catering services but also in areas of high-level services, such as the purchase of

computer programming inputs and computer-based products, training expertise, legal services and so forth. The most extreme example reported here was that of the U.S. international bank where business units are left free to decide on the purchase of a large range of their inputs either from other units of the organization or from outside contractors.

When applied to the purchase of labor inputs, the trend toward disintegration is revealed in the growing demand for contingent labor. Perhaps the simplest definition of contingent labor is a labor force that employers can use flexibly when product demand fluctuates. Contingent employment can cover situations in which employers have either an extremely weak or a relatively strong contractual attachment to contingent workers – ranging from low wages/no benefits to high wages/high benefits. It can take many forms including seasonal part-time hiring, permanent part-time hiring, use of temporary workers contracted or leased from firms specializing in temporary employment, or use of independent and self-employed contractors. It can include both low skilled or high skilled workers. In all of the firms visited, the most obvious evidence of this transformation was in the growing use of permanent part-time employees to staff branch office positions during peak hours and peak days; it was also found in the growing practice of systems divisions to staff programming projects partly with company employees and partly with outside workers hired on a project basis.

While this issue is somewhat beyond the scope of this book, it would be a mistake to fail to see that the rise of contingent labor is not simply the result of a growing demand by firms for such labor but also of a growing supply. The rise in part-time forms of employment is in no small way a response to the growth of female participation in the labor force throughout the postwar period. For example, a recent Japanese study of the rise of temporary employment agencies in Japan found that the industry took off in the early 1980s because it identified an enormous pent-up demand for part-time work on the part of homebound wives who, until that point, lacked such employment alternatives[3]. Likewise, the lengthening of education is an important factor responsible for the growth in the demand for part-time work among youth.

Together, the changes described in this book suggest a repositioning of firms vis-a-vis the external labor market, involving three major labor segments: a segment of core workers, a segment of high skilled contingent workers, and a segment of low skilled contingent workers. While the trend is clearly more developed in some countries than in others, there are signs of its emergence everywhere.

While there is considerable evidence that over the long term firms are attempting to minimize the number of workers to whom they are committed by increasing their reliance on contingent workers, they must nevertheless continue to rely on a core of workers who can develop, implement, and convey to others the strategic message of the organization. Undoubtedly, core workers play a key role in diffusing and transmitting the firm's corporate culture. Increasingly, this core is designed to accommodate principally a select group of employees, comprising professional and managerial workers as well as the new clerical sales force. Alone, these workers continue to enjoy mobility opportunities within the firm. Less often, however, does this core include the growing number of specialized professionals, whose field of expertise, while needed, may be only peripherally linked to the primary mission of the firm. And less often does this core include low ranking clericals whose work, while necessary, may nevertheless be increasingly too remote from the primary mission of the firm.

From the point of view of public policy, the emergence of this new labor market segmentation around core and contingent workers, partly the result of the repositioning of firms and partly the result of changes in the labor supply, raises fundamental issues to which we return in the conclusion of this chapter.

From the point of view of the firm itself, this drive toward greater labor market flexibility

implies much more than simply increasing the use of part-time workers, loosening job definitions, or weakening the cultural and/or contractual tradition of long-term attachment to employees. It also means developing and learning how to manage new systems of relationships with employees who are characterized by higher turnover and by individuals whose commitment to their work may no longer equal their tenure with employers.

Corporate Training: A New Paradigm of Skill Formation

The new labor market flexibility does not do away with the need for corporate training – far from it as we have seen – but it does pose it in new terms. Under the traditional skill formation system, the broad tendency was to internalize as much of the skill formation process as possible within the firm. Both workers and employers saw this internalization as beneficial: it created a reciprocal dependency between trained workers and employers and put considerable pressure on both sides to preserve their commitment to one another.

While such skill formation systems might have done well in preparing labor forces for stable firms and stable markets, some dimensions of those systems appear increasingly out of step with the needs of today's economy. As markets change ever faster and as survival becomes increasingly linked to a firm's ability to move quickly in and out of market opportunities, firms must be able to assemble skill structures that are increasingly amenable to rapid change.

The transformations observed in the course of this study suggest a transformation in skill formation in the following directions:

- A widespread need for higher levels of educational preparation among all workers, including those on the lower rungs of the organization;
- A widespread need for better interactional skills for all workers, including stronger abilities to communicate and work in group situations;
- A widespread need for workers with enhanced skills to deal with customer assistance and sales situations;
- A need for expanded product and market knowledge, especially as the availability of products and the complexity of markets continue to multiply;
- A growing need for new classes of workers with high levels of specialized professional expertise; and
- A growing need for entrepreneurship, especially among middle-level professional and managerial personnel who, in the past, were asked to respond to executive orders rather than to shape their own strategic objectives.

The ongoing labor market transformations observed in this study suggest increasing externalisation of those areas of skill preparation that can be considered generic, but continuing internalization and, for that matter, expansion of training in those skill areas that are considered highly firm-specific. Of course, there remains considerable variations among countries, ranging from the United States and Japan where there is a good deal of externalization, to Germany where there is less. Clearly, both firms and unions may be ducking the trend toward externalization, depending on circumstances. Yet, as one French union leader put it, what is in the process of externalization for workers, if done right, is a protection against being locked into jobs with limited and highly job-specific skills; what is in it for firms is greater socialization of the rapidly rising costs of investments in human capital.

In terms of raising overall educational attainment levels, increasingly the demand is for individuals with strong problem solving abilities, that is for individuals who, when faced with a

new environment, are able to both identify problems and identify their solutions. The rationale is twofold. First, in an environment in which markets must increasingly be won on the basis of the ability of firms to customize their output, almost every customer need represents a different problem that workers in front line, customer assistance/sales positions must be able to identify. Second, in an environment in which markets change rapidly, employees must be able to move quickly from one environment to another. High levels of formal educational preparation are viewed as the only way to provide individual workers with minimal tools for self-training in the new environment.

To repeat, rising educational requirements do not negate the need for firm-based training, and this, for several reasons. First, the firm must make up for the deficiencies, past or present, of the educational system. This may be particularly true in such behavioral areas as communications, assistance, ability to conduct a sales negotiation, and so forth.

Second, in service industries, products are procedures which come into being only in the course of a relationship between the firm and its client. "Services" are largely "relationships," and "product knowledge" is in no small way "behavioral knowledge" on the part of both employees and customers. In a world characterized by increasing competition, firms must keep identifying new markets, innovating and introducing new products. In turn, this implies a never ending need for training in the handling of new products.

More importantly, this need for innovation also means that firms must figure out improved ways of learning from the market, generating new products, and selling them to customers. How firms organize in order to satisfy this need is perhaps the toughest challenge that firms must face. To a very large extent, it is linked to the firm's capacity to decentralize its innovation and entrepreneurial intelligence close to the marketplace. The era in which the systems division managers decided almost single-handedly what new products were necessary and how to design the supporting systems is past, even though in real life many firms may still be struggling to break away from the tyranny of the systems division. The new era demands that entrepreneurs, product developers, marketers, and even trainers be much closer to the front line where new markets are going to be identified, better products developed, and stronger employees trained in selling and servicing the new products. This is the need conceptualized by a number of firms, each through its own variation of the diagram below, which shows the key functions of marketing, strategic planning, training, and systems development reorganized on a decentralized basis to serve final users, that is, those who on the front line deal with the customer.

Decentralizing innovation and entrepreneurial intelligence close to the marketplace, however, gets to the core of how firms contribute to the skill formation of entrepreneurially minded managers and specialized professionals.

If we have read correctly the transformation that is underway everywhere, the ability of firms to strengthen their managerial and professional labor force lies as much in organizational changes as in training *per se*. It demands that firms be able to reorganize their relationship to the external labor market, since such a relationship affects both their capacity to hire better educated managers and to access expertise increasingly available mainly from

the external labor markets of specialized professionals. It also demands that firms effect a shift from centralization to decentralization as a way to provide settings within which the new managers and professionals can strengthen their skills.

In the final analysis, as the balance of skills continues to shift away from the lowest skilled to the highest skilled, solving the skill formation problem for the new managers and the new professionals is likely to be at least as important as the problem of skill formation for the new clerical employees. For it is in solving that problem that the firm's success in organizing for growth will largely rest.

A Scorecard?

Many are those who, after having read an earlier draft of this report, asked us which firms we thought were "more advanced" than others in their transformation. While everyone loves a scorecard – especially if their favorite makes it high on the list – we have resisted the temptation of writing one because, if we are true to the analysis presented in this book, developing a ranking would demand a far more rigorous analysis of a multiplicity of change variables than that which we are equipped to provide. Indeed, if we simply review the change variables examined in this book, perhaps more than a dozen were suggested by our analysis, including the capacity of firms to decentralize – geographically and/or organizationally; the capacity of firms to change the division of labor – both in the front-office and in the back-office; the extent of automation – in the back-office, in the front-office, in management information systems, etc.; the capacity of firms to effect a shift to a new strategy of "qualitative" growth and a strong market orientation; the capacity of firms to shift to a labor force with greater educational preparation; the capacity of firms to become more flexible through more extensive use of out-sourcing, part time employment and other forms of contingent employment, and yet others.

Most likely a rigorous analysis of these and other variables – if rigor is even possible – would suggest that some firms did better than others along some variables but that none scored consistently high on all variables. For example, such analysis might suggest that the U.S. multinational bank, the Swedish insurance company and the large German bank were among the most advanced in shifting to a market orientation and developing qualitative growth strategies; that the Swedish bank, the Swedish insurance company, the French banks, and the Japanese banks were among the most advanced in computerizing their back-offices; that the U.S. multinational bank, the French regional bank, and the Swedish bank were among the most advanced in computerizing their front-offices; or, that the Japanese firms, the U.S. multinational bank and the German banks were among the most advanced in raising educational attainment of their labor force.

In the end, however, firms are not interested in change for the sake of change but in making those changes that are necessary to improve market shares and profits, in a world in which the necessary conditions for achieving market success have become far more complicated that in the past. To a large extent, however, a rigorous assessment of the individual market performance of the twelve firms was beyond the scope of our assignment in this research.

Implications for Educational Policy

At a minimum, the changes observed in the five countries suggest new roles for public policy in two areas: educational policy and labor market policy.

Although the scope of our investigation was limited to studying twelve firms, it is likely that some of the lessons from this study that are relevant to educators can be broadened not only to the rest of the financial sector in the five countries but also to other service sectors. In this regard several lessons can be suggested:

1. If service industries find it increasingly difficult to employ workers with less than a minimum complete high school education, then advanced economies are faced with the dual challenge of retraining those who lack such a level of preparation – both younger and older workers – and of gearing their educational system to meet the new educational requirements. This would seem a particular challenge for countries with educational systems that historically had tended to be organized in a selective manner. Such countries will need to find ways to broaden access of high school and even perhaps post-high school education to a much larger share of the population.
2. Our study has emphasized the need to prepare future workers for work environments that will demand a greater capacity to work in teams, pass judgment and take individual initiatives, a greater capacity to communicate and a greater capacity to serve and assist others. These new competencies will have to be taught by educational institutions to a much greater extent than they have been in the past. In terms of kindergarten to twelfth grade educational reform, it will mean going beyond the current emphasis on strengthening basic education – i.e. teaching the three Rs – and actively promoting the development of some of these new behavioral competencies. One of the writers of the recent U.S. report on high school education in Japan[4] reflected to us on the apparent success of Japanese primary and secondary schools in placing young students in work situations that stress collective over individualistic behavior by suggesting that the only equivalent environment in a U.S. high school is that created in the school's football team. This observation strikes us as putting the finger on a major issue that educators need to address everywhere.
3. Our study also has suggested that countries will be under increasing pressure to expand and strengthen the post-high school educational environment where preparation in the new expertise is likely to occur.

These and other lessons that arise from this study will need to be considered carefully by educators in each country, since none will be subject to a standard or uniform answer. Each country, as we have seen, is characterized by a unique educational system with its own strengths and weaknesses. In France, for example, the strength of that country's postgraduate university education (i.e. four, five or six years after high school) is in part a product of the selective nature of its high school system which may also be its weakness; in Germany, the very strength of the "dual" system may partly explain the relatively weak linkage between the private sector and the university; and in the United States, a loosely structured compulsory and post-compulsory educational system may be partly responsible for high dropout rates. In other words, if firms and workers are going to benefit from a strengthening of the educational system as has been suggested earlier, then each country will need to chart its own course.

Implications for Labor Market Policy

From the point of view of labor market policies, the drive toward greater labor market "flexibility" will demand a fundamental reassessment of how stability can be institutionalized in the market without necessarily undercutting the need for greater flexibility. From the point of unions and professional associations, this will necessitate a rethinking of past strategies that

often institutionalized stability by directly establishing contractual benefits and protections between the firm and its employees, in favor of new strategies in which stability becomes rooted in institutional arrangements increasingly separate from individual firms. Most likely, this will demand a vastly increased role for public and parapublic institutions around which income maintenance, health benefits, and retraining schemes will need to be instituted.

The role played by high schools and colleges as labor market clearing institutions will need to be expanded not so much as gateways to rigidly structured life-time employment opportunities as much as revolving doors to job and career opportunities characterized by frequent changes. Education and labor market policy-makers must face up to the fact that the era characterized by a neat transition from school to work is fast disappearing, if not simply over. Today, by the time young people become attached full-time to the labor force, many have already experienced work through a mix of part-time, year round, or summer employment. By that point, schools, employment service institutions, personal networks, and even professional networks have all played a role in bringing about this new kind of transition.

Finally, the new generation's understanding of the role that education can play in individuals' personal and professional development is likely to be vastly different from that of its parents. These and other changes are further contributing to new demands for new kinds of flexibility both within and outside the workplace. The public policy challenge is to make better use of these new opportunities in order to maximize the use of human resources – not to duck the trend.

NOTES

1. For a presentation and discussion of these and related concepts in the United States, see Susan Christopherson, "The Origins of Contingent Labor Demand in Changing Production Organizations", Working Paper, Geography Department, University of California, Los Angeles, December 1986; Thierry Noyelle, "Services and the New Economy: Towards a New Labor Market Segmentation", Conservation of Human Resources, Columbia University, January 1987; and Thierry Noyelle, *Beyond Industrial Dualism: Market and Job Segmentation in the New Economy*, Boulder, Colorado: Westview Press, 1987. For a remarkably similar analysis based on the evolution of banking in the United Kingdom, see Stephen Bevan and Amin Rajan, "Technology, Training and Organization Design in Banking", Working Paper, Institute of Management Studies, Brighton, September 1986.
2. Portions of this section are borrowed from Noyelle, "Towards a New Labor Market Segmentation", *op.cit.*
3. *The Japanese Study on Skill Changes and Skill Formation in the Service Industries*, a Report to OECD/CERI, autumn 1986.
4. United States Department of Education, *Japanese Education Today*, Washington, D.C.: U.S. Government Printing Office, January 1987.

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In an age of new technology and fiercer competition in an increasingly international market, the success of banks, insurance companies and other financial firms depends on the quality of the people who work for them. This study, part of a continuing analysis by CERI of technological change and human resources in the service sector, examines financial firms in France, Germany, Japan, Sweden and the United States. It concludes that firms can give themselves a competitive advantage through new strategies to organise work and develop and make best use of workers' skills.